Full wwPDB EM Validation Report ⓘ

Sep 17, 2025 – 03:18 PM JST

PDB ID	:	9V7H / pdb_00009v7h
EMDB ID	:	EMD-64813
Title	:	Phycobilisome rod R2 from Gloeobacter violaceus PCC 7421
Authors	:	Burtseva, A.D.; Baymukhametov, T.N.; Slonimskiy, Y.B.; Popov, V.O.; Sluchanko, N.N.; Boyko, K.M.
Deposited on	:	2025-05-28
Resolution	:	2.95 Å(reported)

This is a Full wwPDB EM Validation Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

The following versions of software and data (see references ⓘ) were used in the production of this report:

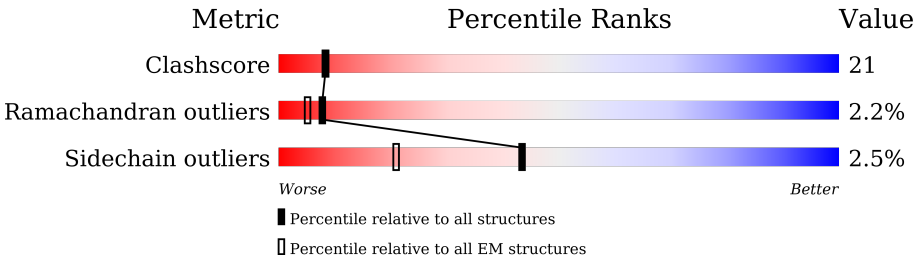
EMDB validation analysis	:	0.0.1.dev126
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4-5-2 with Phenix2.0rc1
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.45.1

1 Overall quality at a glance

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 2.95 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	275	7% 14% 12% 73%
2	B	172	15% 59% 36% 5%
2	D	172	44% 53% 41% 6%
2	F	172	17% 59% 38%
2	H	172	17% 55% 41%
2	J	172	23% 60% 37%
2	L	172	18% 56% 38% 6%
2	O	172	63% 33%

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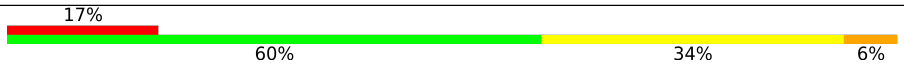
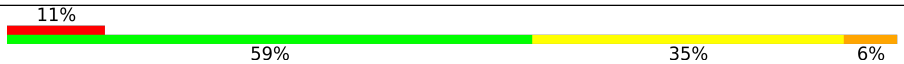
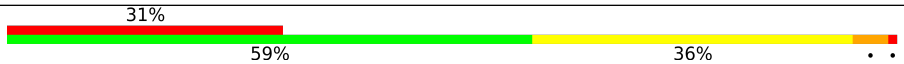
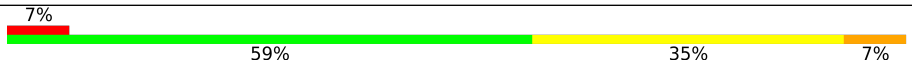
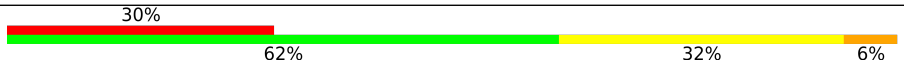
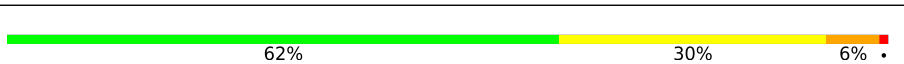
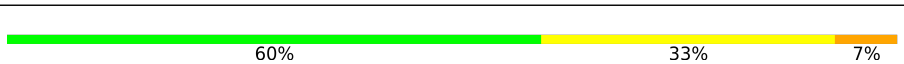
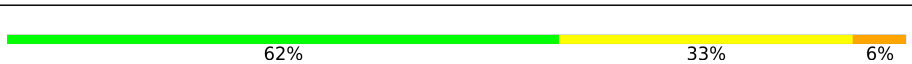
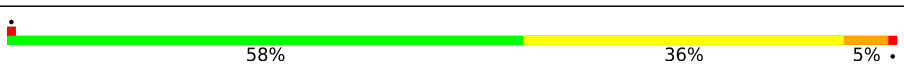
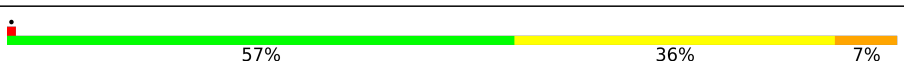
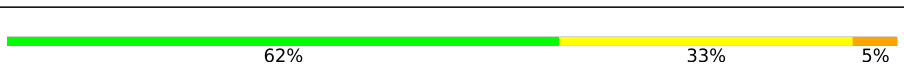
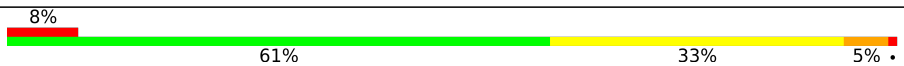
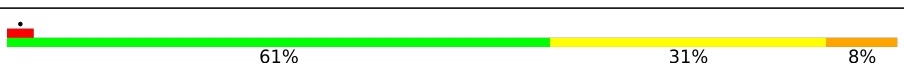
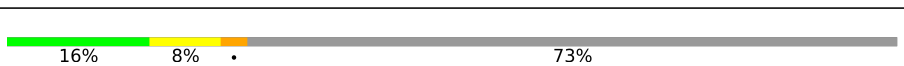
Mol	Chain	Length	Quality of chain
2	Q	172	
2	S	172	
2	U	172	
2	W	172	
2	Y	172	
3	C	162	
3	E	162	
3	G	162	
3	I	162	
3	K	162	
3	N	162	
3	P	162	
3	R	162	
3	T	162	
3	V	162	
3	X	162	
3	a	162	
4	M	274	
5	Z	824	

2 Entry composition

There are 6 unique types of molecules in this entry. The entry contains 36476 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called Phycocyanin-associated rod linker protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	73	Total	C	N	O	S	0	0
			570	356	103	110	1		

- Molecule 2 is a protein called Phycocyanin beta chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	172	Total	C	N	O	S	0	0
			1293	802	229	255	7		
2	D	172	Total	C	N	O	S	0	0
			1293	802	229	255	7		
2	F	172	Total	C	N	O	S	0	0
			1293	802	229	255	7		
2	H	172	Total	C	N	O	S	0	0
			1293	802	229	255	7		
2	J	172	Total	C	N	O	S	0	0
			1293	802	229	255	7		
2	L	172	Total	C	N	O	S	0	0
			1293	802	229	255	7		
2	O	172	Total	C	N	O	S	0	0
			1293	802	229	255	7		
2	Q	172	Total	C	N	O	S	0	0
			1293	802	229	255	7		
2	S	172	Total	C	N	O	S	0	0
			1293	802	229	255	7		
2	U	172	Total	C	N	O	S	0	0
			1293	802	229	255	7		
2	W	172	Total	C	N	O	S	0	0
			1293	802	229	255	7		
2	Y	172	Total	C	N	O	S	0	0
			1293	802	229	255	7		

- Molecule 3 is a protein called Phycocyanin alpha chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	C	162	Total	C	N	O	S	0	0
			1243	779	217	242	5		
3	E	162	Total	C	N	O	S	0	0
			1243	779	217	242	5		
3	G	162	Total	C	N	O	S	0	0
			1243	779	217	242	5		
3	I	162	Total	C	N	O	S	0	0
			1243	779	217	242	5		
3	K	162	Total	C	N	O	S	0	0
			1243	779	217	242	5		
3	N	162	Total	C	N	O	S	0	0
			1243	779	217	242	5		
3	P	162	Total	C	N	O	S	0	0
			1243	779	217	242	5		
3	R	162	Total	C	N	O	S	0	0
			1243	779	217	242	5		
3	T	162	Total	C	N	O	S	0	0
			1243	779	217	242	5		
3	V	162	Total	C	N	O	S	0	0
			1243	779	217	242	5		
3	X	162	Total	C	N	O	S	0	0
			1243	779	217	242	5		
3	a	162	Total	C	N	O	S	0	0
			1243	779	217	242	5		

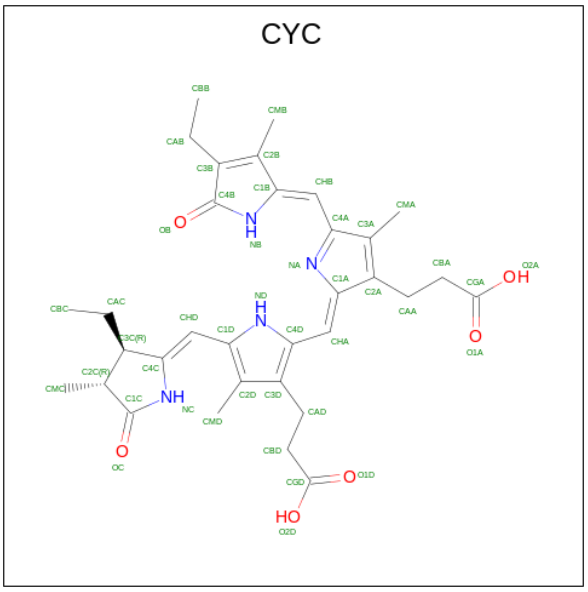
- Molecule 4 is a protein called Phycocyanin-associated rod linker protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	M	273	Total	C	N	O	S	0	0
			2173	1378	376	414	5		

- Molecule 5 is a protein called Glr1262 protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	Z	221	Total	C	N	O	S	0	0
			1753	1112	312	328	1		

- Molecule 6 is PHYCOCYANOBILIN (CCD ID: CYC) (formula: $C_{33}H_{40}N_4O_6$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms				AltConf
6	B	1	Total	C	N	O	0
			43	33	4	6	
6	B	1	Total	C	N	O	0
			43	33	4	6	
6	C	1	Total	C	N	O	0
			43	33	4	6	
6	D	1	Total	C	N	O	0
			43	33	4	6	
6	D	1	Total	C	N	O	0
			43	33	4	6	
6	E	1	Total	C	N	O	0
			43	33	4	6	
6	F	1	Total	C	N	O	0
			43	33	4	6	
6	F	1	Total	C	N	O	0
			43	33	4	6	
6	G	1	Total	C	N	O	0
			43	33	4	6	
6	H	1	Total	C	N	O	0
			43	33	4	6	
6	H	1	Total	C	N	O	0
			43	33	4	6	
6	I	1	Total	C	N	O	0
			43	33	4	6	
6	J	1	Total	C	N	O	0
			43	33	4	6	
6	J	1	Total	C	N	O	0
			43	33	4	6	

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Mol	Chain	Residues	Atoms				AltConf
6	K	1	Total	C	N	O	0
			43	33	4	6	
6	L	1	Total	C	N	O	0
			43	33	4	6	
6	L	1	Total	C	N	O	0
			43	33	4	6	
6	N	1	Total	C	N	O	0
			43	33	4	6	
6	O	1	Total	C	N	O	0
			43	33	4	6	
6	O	1	Total	C	N	O	0
			43	33	4	6	
6	P	1	Total	C	N	O	0
			43	33	4	6	
6	Q	1	Total	C	N	O	0
			43	33	4	6	
6	Q	1	Total	C	N	O	0
			43	33	4	6	
6	R	1	Total	C	N	O	0
			43	33	4	6	
6	S	1	Total	C	N	O	0
			43	33	4	6	
6	S	1	Total	C	N	O	0
			43	33	4	6	
6	T	1	Total	C	N	O	0
			43	33	4	6	
6	U	1	Total	C	N	O	0
			43	33	4	6	
6	U	1	Total	C	N	O	0
			43	33	4	6	
6	V	1	Total	C	N	O	0
			43	33	4	6	
6	W	1	Total	C	N	O	0
			43	33	4	6	
6	W	1	Total	C	N	O	0
			43	33	4	6	
6	X	1	Total	C	N	O	0
			43	33	4	6	
6	Y	1	Total	C	N	O	0
			43	33	4	6	
6	Y	1	Total	C	N	O	0
			43	33	4	6	

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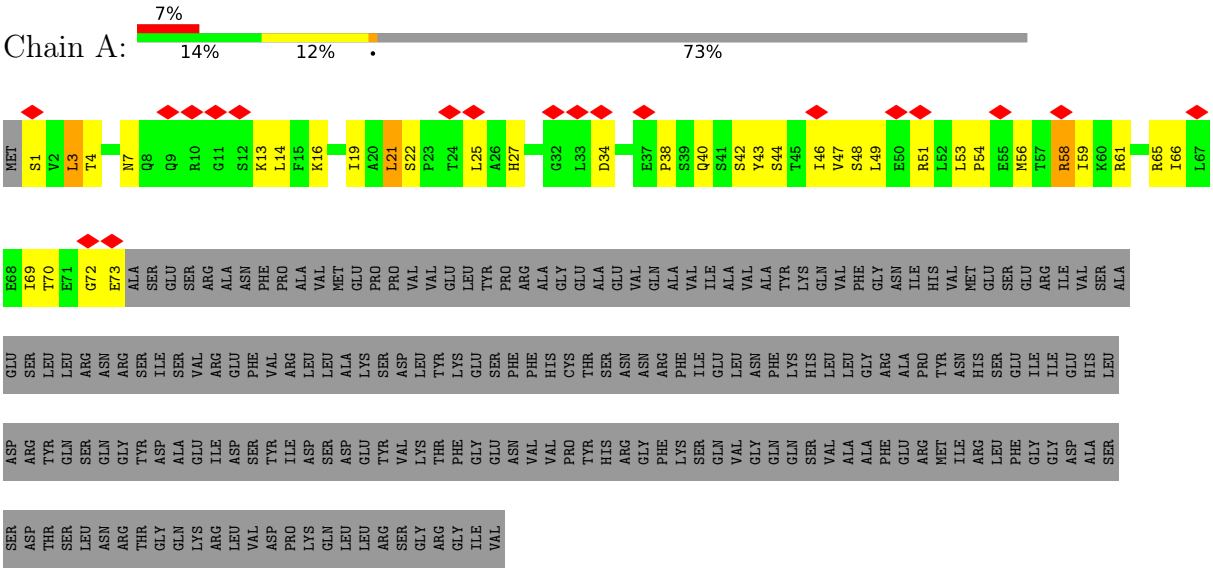
Mol	Chain	Residues	Atoms				AltConf
6	a	1	Total	C	N	O	0
			43	33	4	6	

3 Residue-property plots (i)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

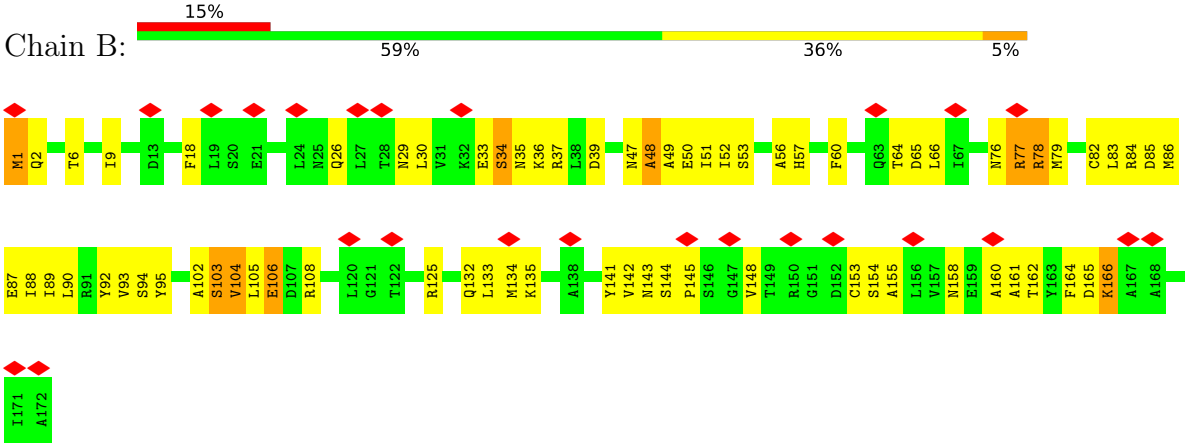
• Molecule 1: Phycocyanin-associated rod linker protein

Chain A:



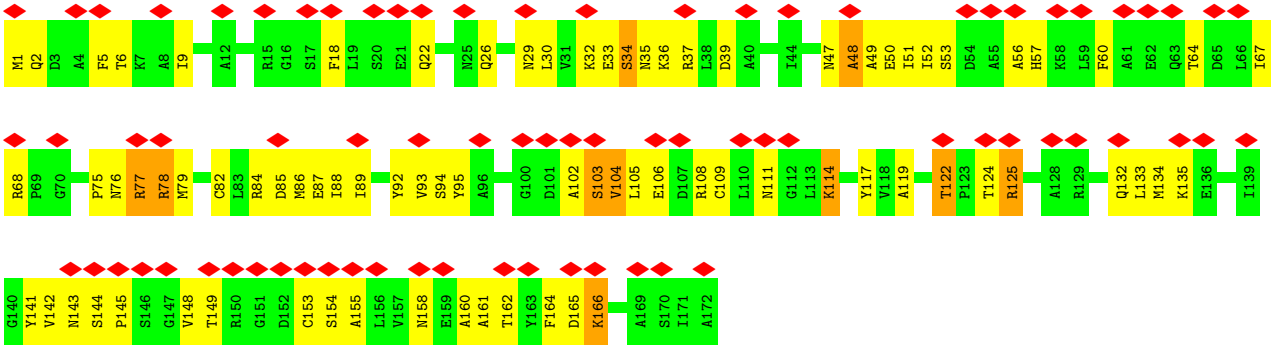
• Molecule 2: Phycocyanin beta chain

Chain B:

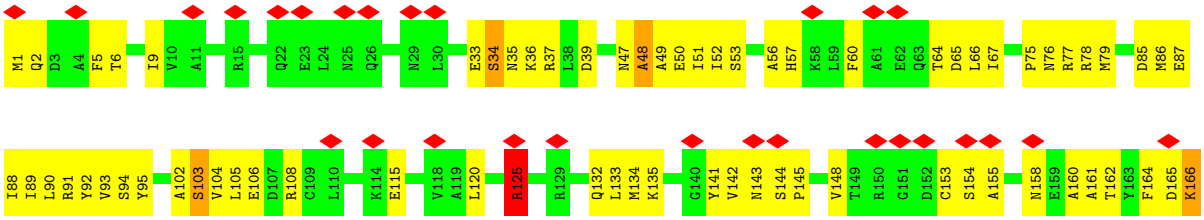


• Molecule 2: Phycocyanin beta chain

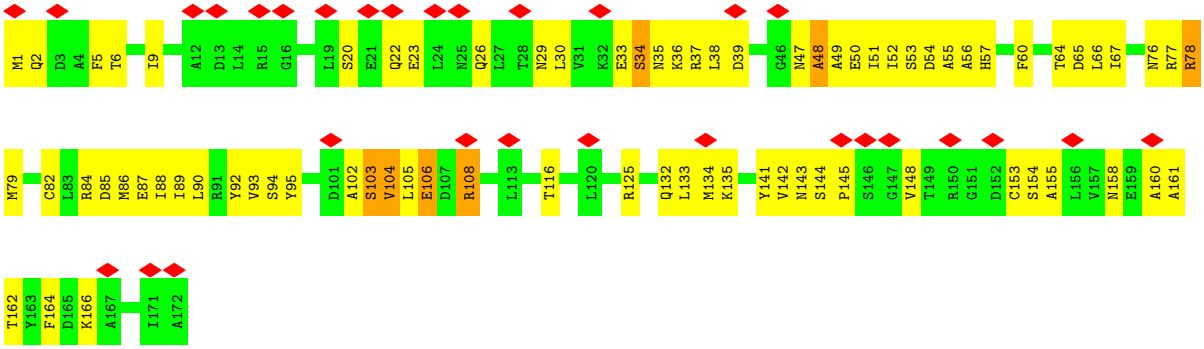
Chain D:



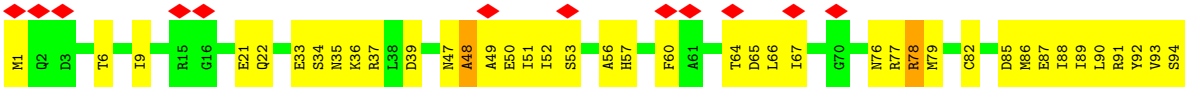
• Molecule 2: Phycocyanin beta chain

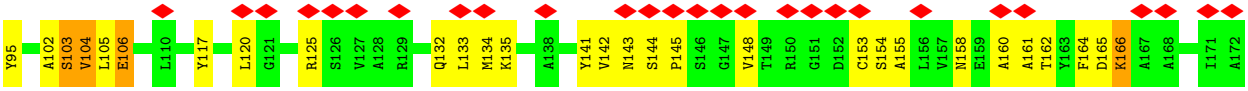


• Molecule 2: Phycocyanin beta chain

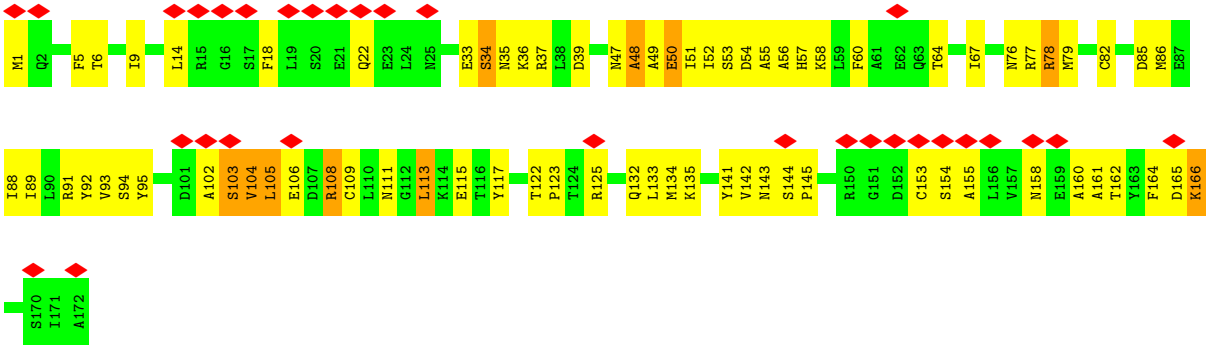


• Molecule 2: Phycocyanin beta chain

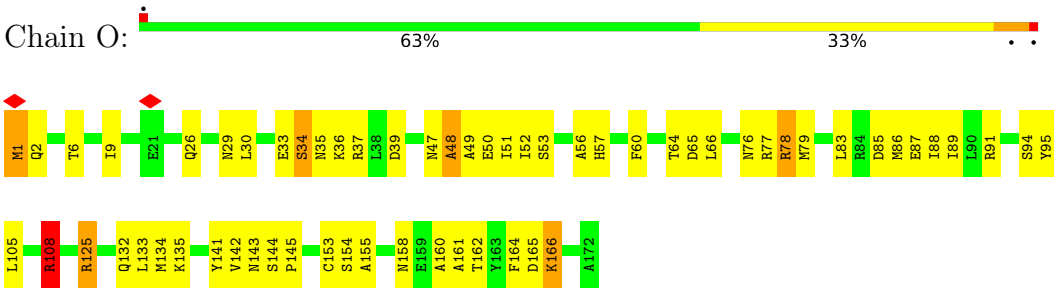




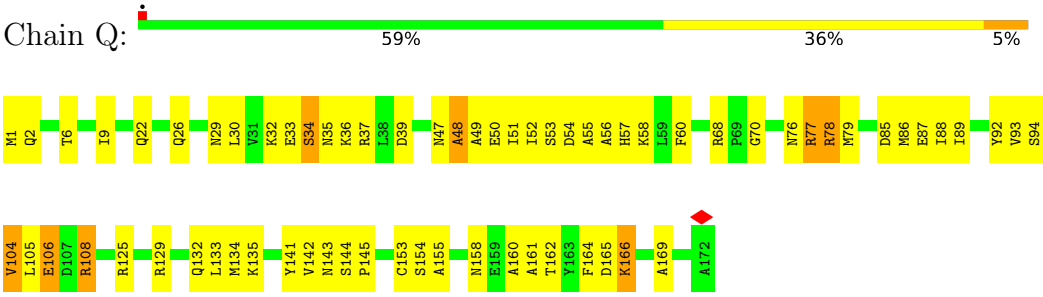
• Molecule 2: Phycocyanin beta chain



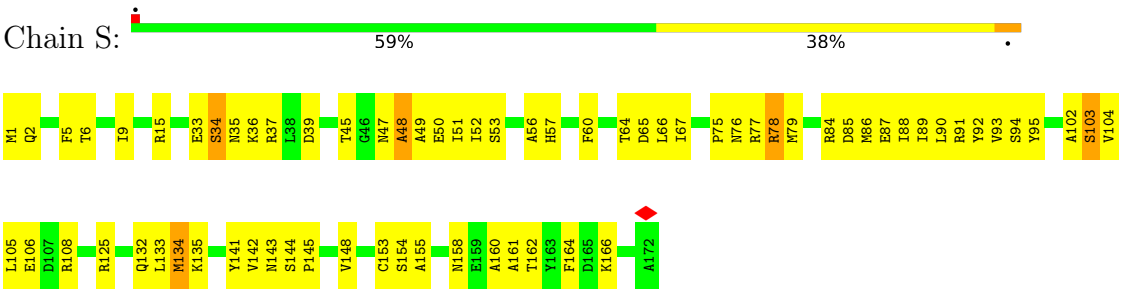
• Molecule 2: Phycocyanin beta chain



• Molecule 2: Phycocyanin beta chain

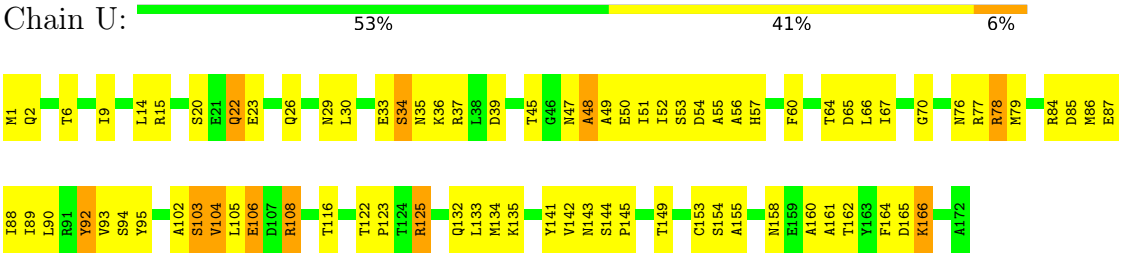


• Molecule 2: Phycocyanin beta chain



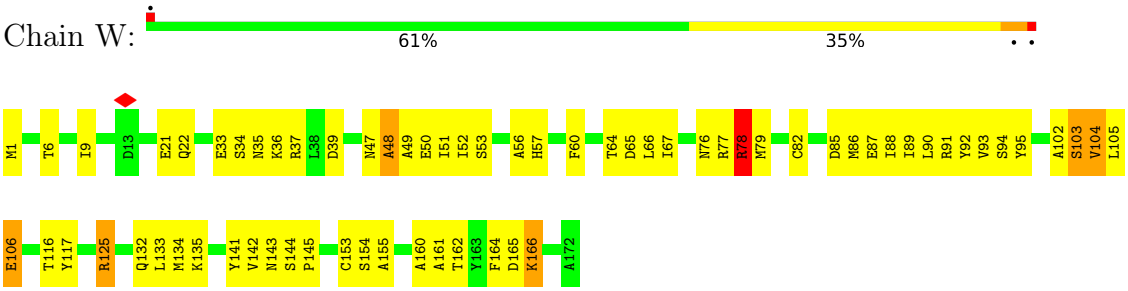
• Molecule 2: Phycocyanin beta chain

Chain U:



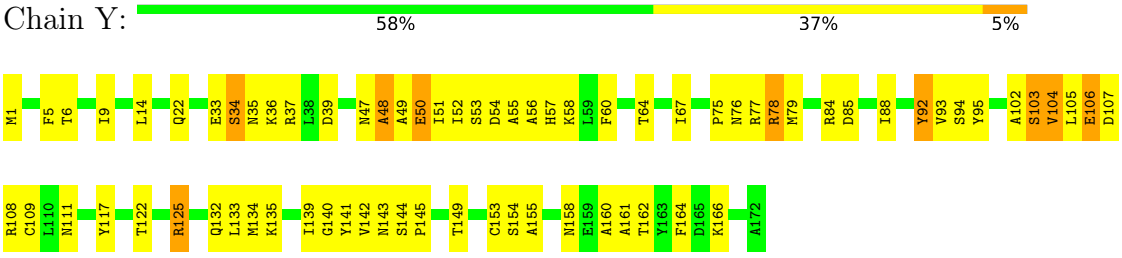
• Molecule 2: Phycocyanin beta chain

Chain W:



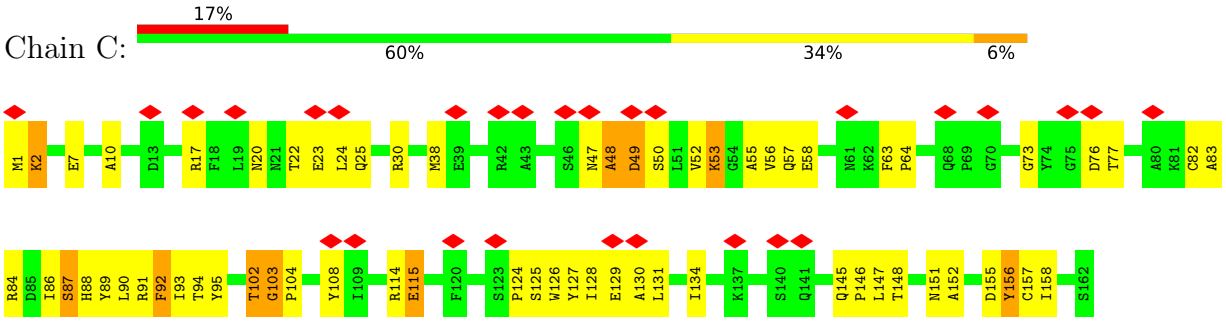
• Molecule 2: Phycocyanin beta chain

Chain Y:



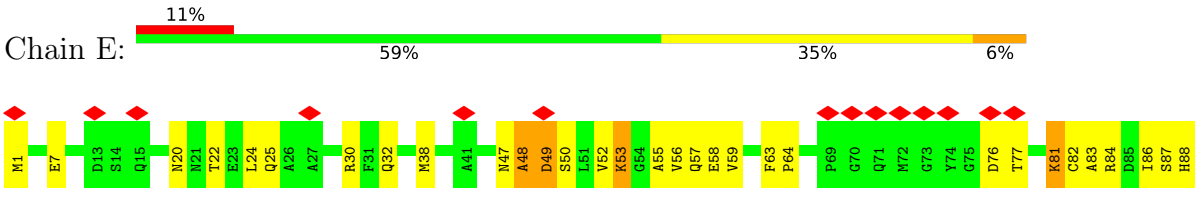
• Molecule 3: Phycocyanin alpha chain

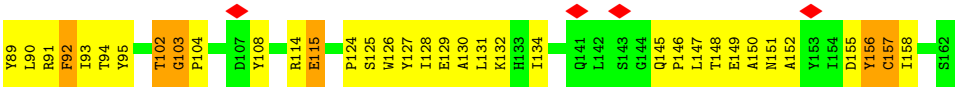
Chain C:



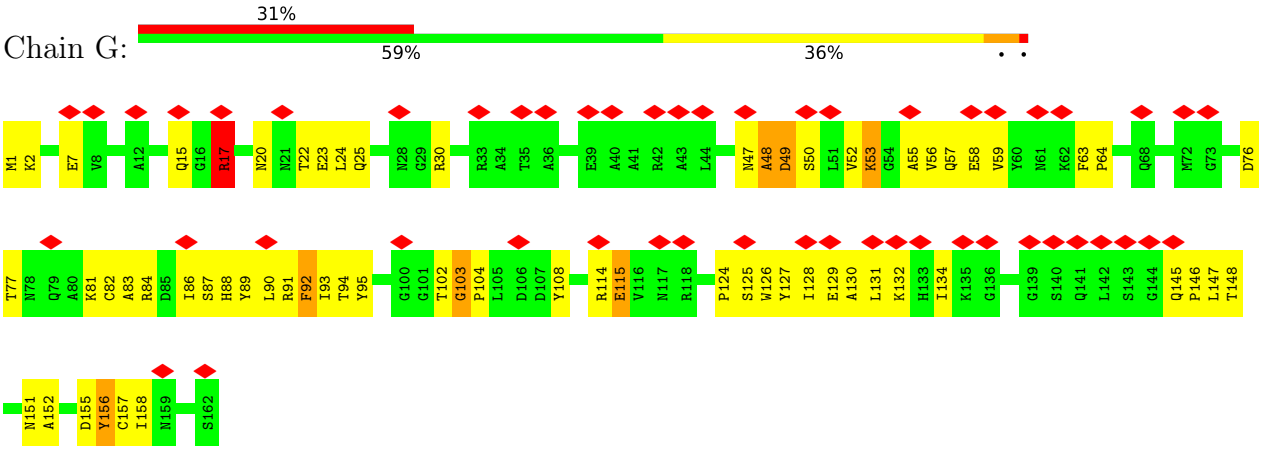
• Molecule 3: Phycocyanin alpha chain

Chain E:

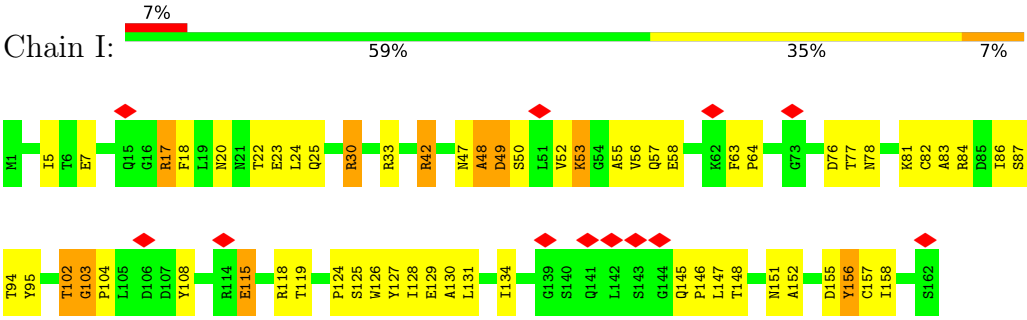




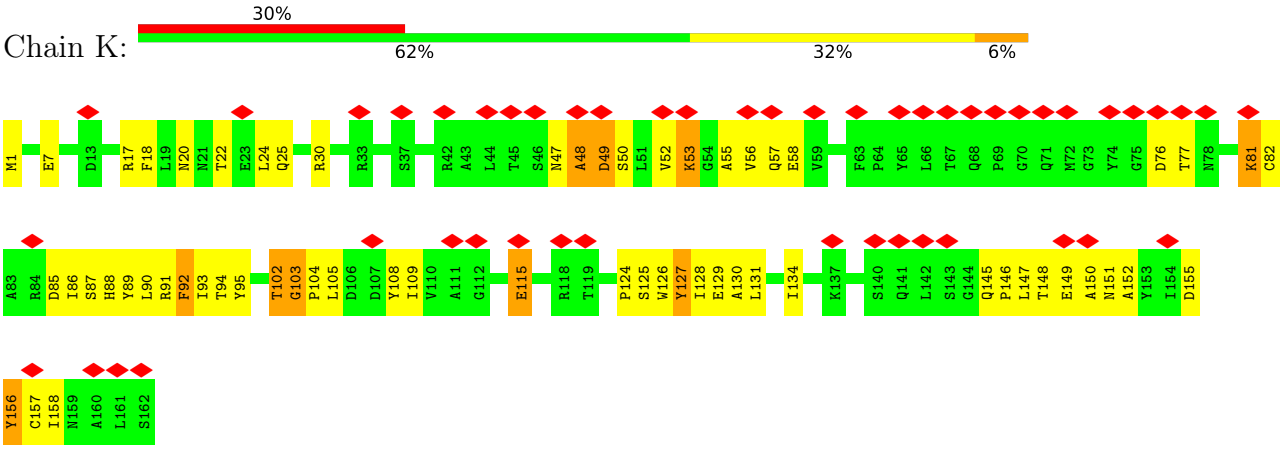
• Molecule 3: Phycocyanin alpha chain



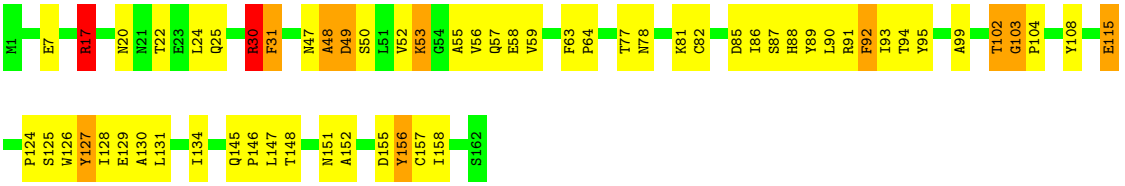
• Molecule 3: Phycocyanin alpha chain



• Molecule 3: Phycocyanin alpha chain

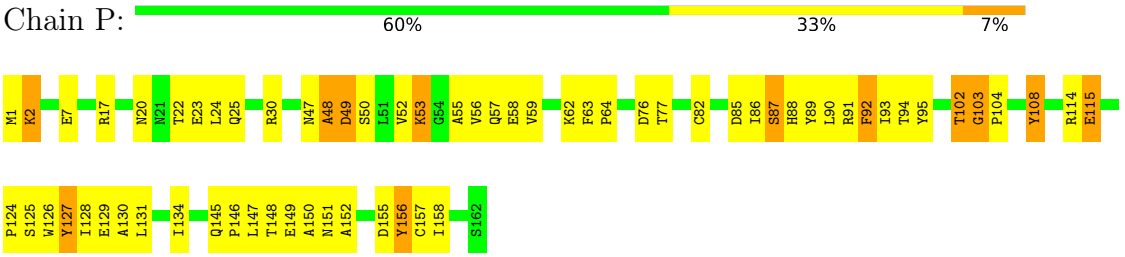


• Molecule 3: Phycocyanin alpha chain



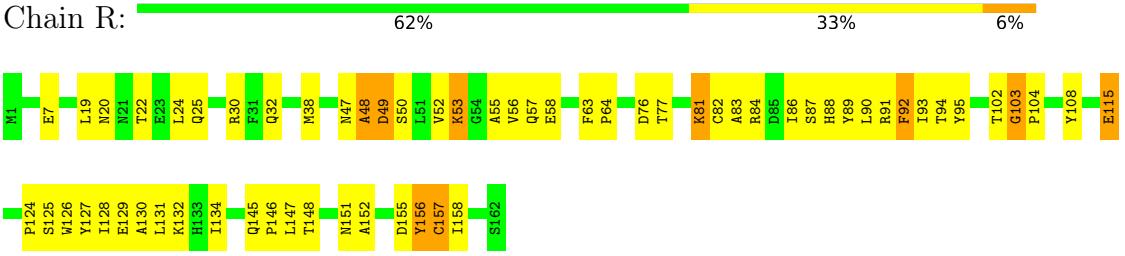
• Molecule 3: Phycocyanin alpha chain

Chain P:



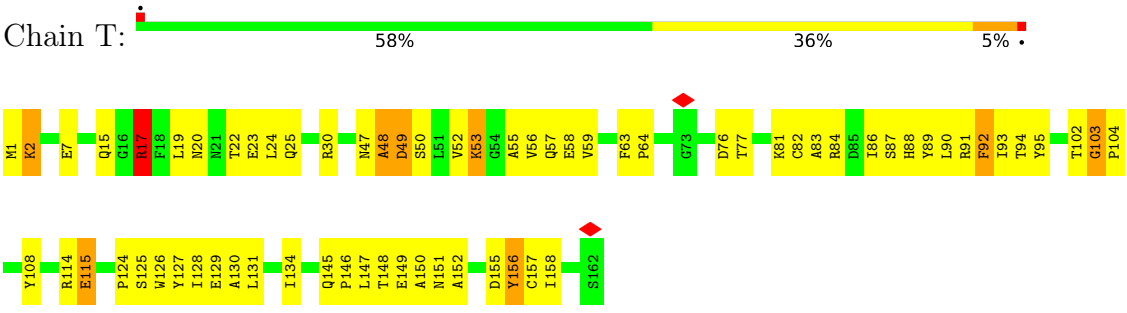
• Molecule 3: Phycocyanin alpha chain

Chain R:



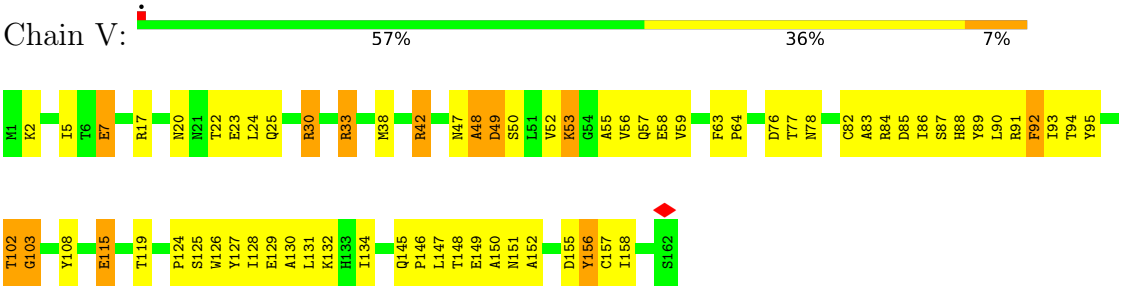
• Molecule 3: Phycocyanin alpha chain

Chain T:



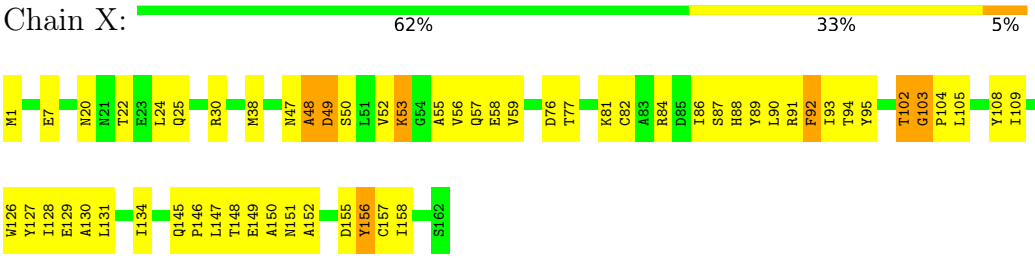
• Molecule 3: Phycocyanin alpha chain

Chain V:



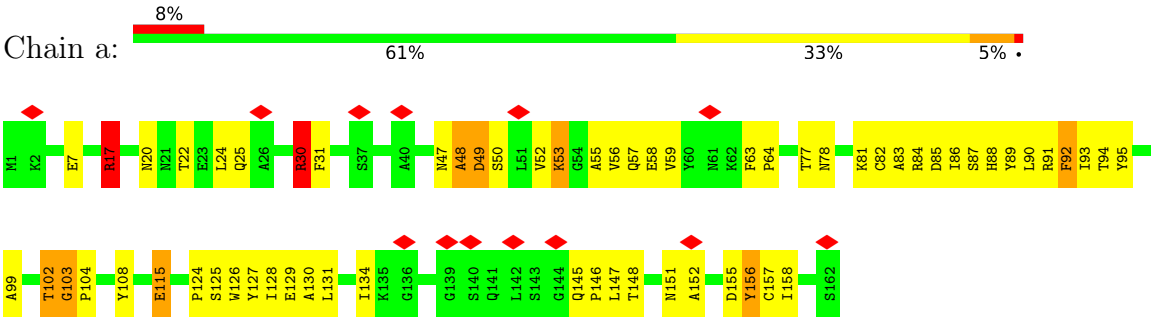
• Molecule 3: Phycocyanin alpha chain

Chain X:



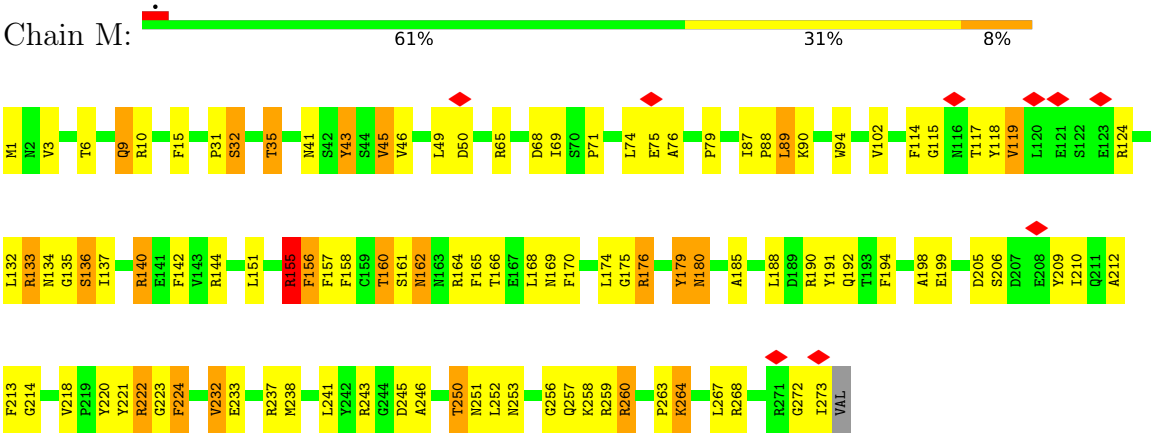
• Molecule 3: Phycocyanin alpha chain

Chain a:



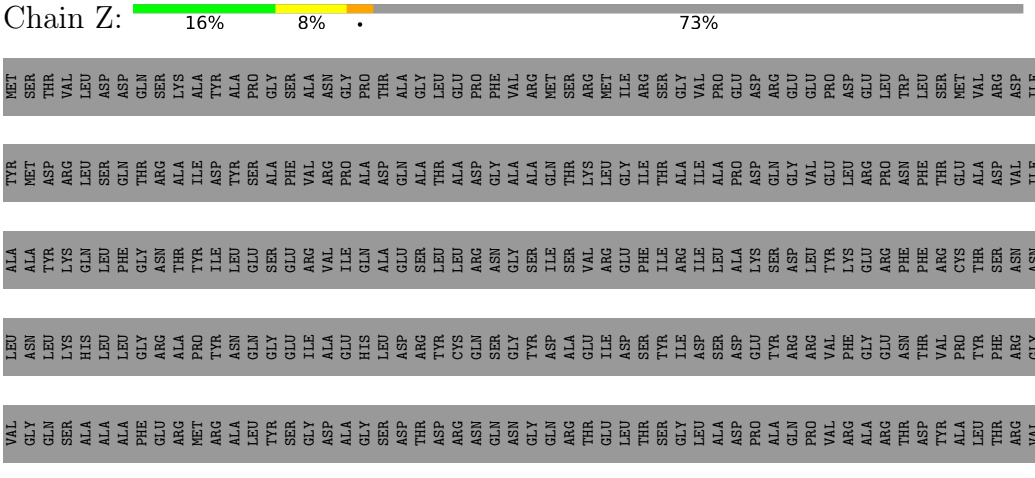
• Molecule 4: Phycocyanin-associated rod linker protein

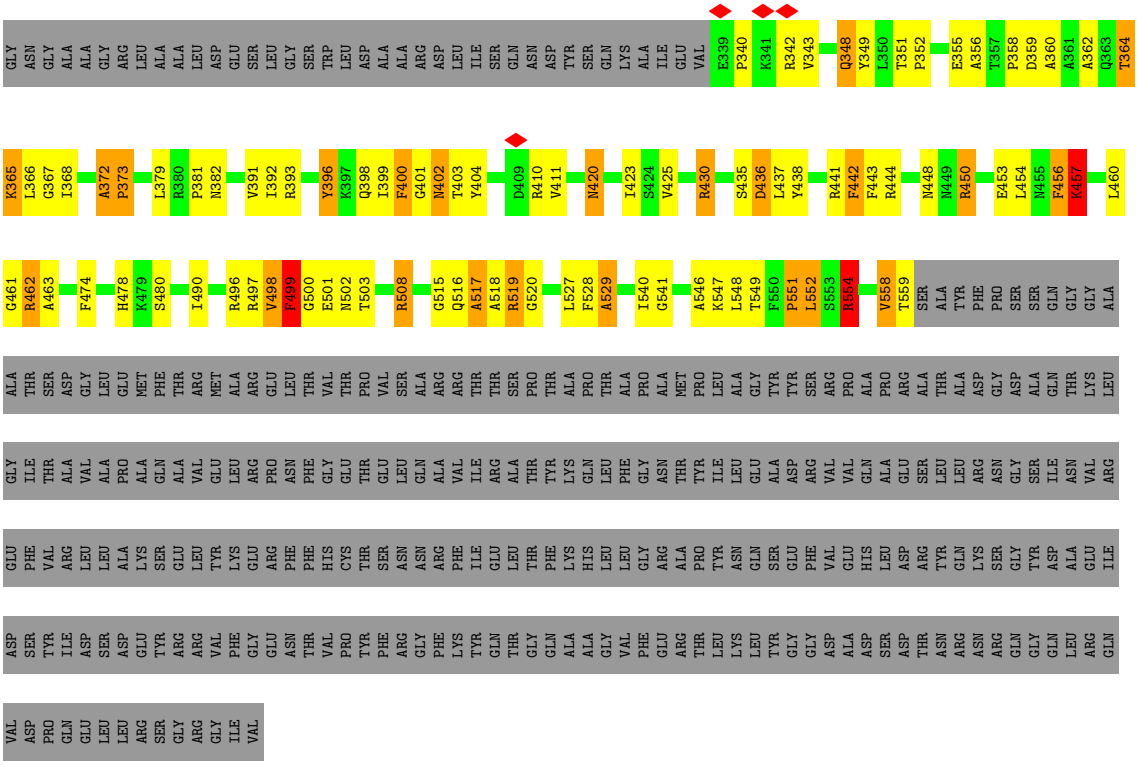
Chain M:



• Molecule 5: Glr1262 protein

Chain Z:




GLY ASN GLY ALA ALA GLY ARG LEU ALA ALA LEU ASP GLU SER LEU GLY SER TRP LEU ASP ALA ALA ARG ASP LEU ILE SER GLN ASN ASP TYR SER GLN LYS ALA ILE GLU VAL
E339 P340 K341 R342 V343 Q348 Y349 L350 T351 P352 E355 A356 T357 P358 D359 A360 A361 A362 Q363 T364
K365 L366 G367 I368 A372 P373 L379 R380 P381 N382 V391 I392 R393 Y396 K397 Q398 I399 F400 G401 N402 T403 Y404 D409 R410 V411 N420 I423 S424 V425 R430 S435 D436 L437 Y438 R441 F442 F443 R444 N448 N449 R450 E453 L454 N455 F456 K457 L460
G461 R462 A463 F474 H478 K479 S480 I490 R496 R497 V498 F499 G500 E501 N502 T503 R508 G515 Q516 A517 A518 R519 G520 L527 F528 A529 I540 G541 A546 K547 L548 T549 F550 P551 L552 S553 R554 V558 T559 SER ALA TYR PHE PRO SER SER GLN GLY GLY ALA
ALA THR SER ASP GLY LEU GLU MET PHE THR ARG MET ALA ARG GLU LEU THR VAL THR PRO VAL SER ALA ARG ARG THR THR SER PRO THR ALA PRO THR ALA PRO ALA MET PRO LEU ALA GLY TYR TYR SER ARG PRO ALA PRO ARG ALA THR ALA ASP GLY ASP ALA GLN LEU LEU ARG ASN GLY SER ILE ASN VAL LEU
GLY ILE THR ALA VAL ALA PRO ALA GLN ALA VAL GLU LEU ARG PRO ASN PHE GLY GLU THR GLU LEU GLN ALA VAL ILE ARG ALA THR TYR LYS GLN LEU PHE GLY ASN THR TYR ILE LEU GLU ALA ASP ARG VAL VAL GLN ALA GLU SER LEU LEU ARG ASN GLY SER ILE ASN VAL ARG
GLU PHE VAL ARG LEU LEU ALA LYS SER GLU LEU TYR LYS GLU ARG PHE PHE HIS CYS THR SER ASN ASN ARG PHE ILE GLU LEU THR PHE LYS HIS LEU LEU GLY ARG ALA PRO TYR ASN GLN SER GLU PHE VAL GLU HIS LEU ASP ARG TYR GLN LYS SER GLY TYR ASP ALA GLU ILE
ASP SER TYR ILE ASP SER ASP GLU TYR ARG ARG VAL PHE GLY GLU ASN THR VAL PRO TYR PHE ARG GLY PHE LYS TYR GLN THR GLY GLN ALA ALA GLY VAL PHE GLU ARG THR LEU LYS LEU TYR GLY GLY ASP ALA ASP SER ASP THR ASN ARG ASN ARG GLN GLY GLN LEU ARG GLN
VAL ASP PRO GLN GLU LEU LEU ARG SER GLY ARG GLY ILE VAL

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	207644	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	66	Depositor
Minimum defocus (nm)	600	Depositor
Maximum defocus (nm)	1600	Depositor
Magnification	85000	Depositor
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	1.643	Depositor
Minimum map value	-0.519	Depositor
Average map value	0.002	Depositor
Map value standard deviation	0.039	Depositor
Recommended contour level	0.35	Depositor
Map size (Å)	840.0, 840.0, 840.0	wwPDB
Map dimensions	672, 672, 672	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.25, 1.25, 1.25	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: CYC

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|>5$	RMSZ	#$\|Z\|>5$
1	A	0.53	0/581	1.07	0/787
2	B	0.59	0/1307	1.14	4/1768 (0.2%)
2	D	0.61	0/1307	1.15	4/1768 (0.2%)
2	F	0.61	0/1307	1.14	3/1768 (0.2%)
2	H	0.61	0/1307	1.15	5/1768 (0.3%)
2	J	0.61	0/1307	1.14	5/1768 (0.3%)
2	L	0.62	0/1307	1.17	4/1768 (0.2%)
2	O	0.64	0/1307	1.15	3/1768 (0.2%)
2	Q	0.71	0/1307	1.16	6/1768 (0.3%)
2	S	0.69	0/1307	1.15	4/1768 (0.2%)
2	U	0.67	0/1307	1.16	7/1768 (0.4%)
2	W	0.68	0/1307	1.15	5/1768 (0.3%)
2	Y	0.71	0/1307	1.21	8/1768 (0.5%)
3	C	0.57	0/1265	1.13	8/1713 (0.5%)
3	E	0.57	0/1265	1.15	8/1713 (0.5%)
3	G	0.58	0/1265	1.24	9/1713 (0.5%)
3	I	0.58	0/1265	1.16	7/1713 (0.4%)
3	K	0.58	0/1265	1.13	8/1713 (0.5%)
3	N	0.66	0/1265	1.20	12/1713 (0.7%)
3	P	0.65	0/1265	1.13	9/1713 (0.5%)
3	R	0.64	0/1265	1.16	8/1713 (0.5%)
3	T	0.66	0/1265	1.24	9/1713 (0.5%)
3	V	0.65	0/1265	1.16	7/1713 (0.4%)
3	X	0.69	0/1265	1.14	7/1713 (0.4%)
3	a	0.58	0/1265	1.20	11/1713 (0.6%)
4	M	0.58	0/2220	1.16	9/3004 (0.3%)
5	Z	0.82	0/1793	1.41	22/2427 (0.9%)
All	All	0.64	0/35458	1.18	192/47990 (0.4%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand.A planarity outlier is detected

by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	4
2	B	0	3
2	D	0	3
2	F	0	2
2	H	0	2
2	J	0	1
2	L	0	3
2	O	0	4
2	Q	0	5
2	S	0	2
2	U	0	3
2	W	0	1
2	Y	0	4
3	C	0	1
3	G	0	1
3	I	0	4
3	K	0	1
3	N	0	2
3	P	0	1
3	T	0	2
3	V	0	3
3	a	0	2
4	M	0	11
5	Z	0	11
All	All	0	76

There are no bond length outliers.

All (192) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	T	17	ARG	CD-NE-CZ	15.48	146.07	124.40
3	G	17	ARG	CD-NE-CZ	14.90	145.26	124.40
2	L	50	GLU	CB-CA-C	11.12	128.34	110.88
2	Y	50	GLU	CB-CA-C	10.96	128.09	110.88
3	G	17	ARG	NE-CZ-NH2	10.73	128.86	119.20
3	T	17	ARG	NE-CZ-NH2	10.36	128.53	119.20
5	Z	400	PHE	CA-CB-CG	-10.28	103.52	113.80
3	T	92	PHE	CA-CB-CG	-9.87	103.93	113.80
3	G	92	PHE	CA-CB-CG	-9.76	104.04	113.80
3	X	92	PHE	CA-CB-CG	-9.75	104.05	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	a	92	PHE	CA-CB-CG	-9.73	104.07	113.80
3	K	92	PHE	CA-CB-CG	-9.69	104.11	113.80
3	P	92	PHE	CA-CB-CG	-9.68	104.12	113.80
3	I	92	PHE	CA-CB-CG	-9.64	104.16	113.80
3	R	92	PHE	CA-CB-CG	-9.62	104.18	113.80
3	V	92	PHE	CA-CB-CG	-9.59	104.21	113.80
3	N	92	PHE	CA-CB-CG	-9.55	104.25	113.80
3	E	92	PHE	CA-CB-CG	-9.48	104.32	113.80
5	Z	442	PHE	CA-CB-CG	-9.46	104.33	113.80
3	C	92	PHE	CA-CB-CG	-9.35	104.45	113.80
4	M	213	PHE	CA-CB-CG	8.90	122.70	113.80
5	Z	373	PRO	N-CA-C	-8.56	97.75	111.19
4	M	160	THR	CA-CB-OG1	-7.17	98.84	109.60
3	a	30	ARG	CG-CD-NE	7.17	127.78	112.00
5	Z	457	LYS	N-CA-CB	7.09	122.48	110.49
3	N	30	ARG	CG-CD-NE	7.03	127.46	112.00
4	M	79	PRO	N-CA-C	-6.93	103.82	110.47
2	O	60	PHE	CA-CB-CG	-6.92	106.88	113.80
2	L	60	PHE	CA-CB-CG	-6.85	106.95	113.80
2	U	164	PHE	CA-CB-CG	-6.83	106.97	113.80
2	B	60	PHE	CA-CB-CG	-6.83	106.97	113.80
3	R	115	GLU	CB-CA-C	-6.81	100.14	110.90
2	H	60	PHE	CA-CB-CG	-6.80	107.00	113.80
2	U	60	PHE	CA-CB-CG	-6.79	107.01	113.80
5	Z	443	PHE	N-CA-C	6.74	118.28	111.07
3	T	115	GLU	CB-CA-C	-6.74	100.26	110.90
2	J	60	PHE	CA-CB-CG	-6.73	107.07	113.80
5	Z	400	PHE	N-CA-CB	6.72	121.85	110.49
2	F	60	PHE	CA-CB-CG	-6.71	107.09	113.80
2	B	164	PHE	CA-CB-CG	-6.69	107.11	113.80
2	H	164	PHE	CA-CB-CG	-6.69	107.11	113.80
2	W	60	PHE	CA-CB-CG	-6.66	107.14	113.80
2	O	164	PHE	CA-CB-CG	-6.64	107.16	113.80
2	D	164	PHE	CA-CB-CG	-6.62	107.18	113.80
3	E	115	GLU	CB-CA-C	-6.59	100.48	110.90
2	Y	60	PHE	CA-CB-CG	-6.58	107.22	113.80
2	Y	164	PHE	CA-CB-CG	-6.57	107.23	113.80
2	S	60	PHE	CA-CB-CG	-6.55	107.25	113.80
3	G	115	GLU	CB-CA-C	-6.54	100.56	110.90
3	V	115	GLU	CB-CA-C	-6.51	100.61	110.90
2	Q	68	ARG	CB-CG-CD	6.50	126.25	111.30
3	C	115	GLU	CB-CA-C	-6.50	100.63	110.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	Q	164	PHE	CA-CB-CG	-6.49	107.31	113.80
3	G	7	GLU	CB-CA-C	-6.48	100.70	110.88
4	M	43	TYR	CB-CA-C	6.47	120.58	109.51
2	O	64	THR	CA-CB-OG1	-6.46	99.91	109.60
2	L	164	PHE	CA-CB-CG	-6.45	107.35	113.80
3	T	7	GLU	CB-CA-C	-6.45	100.76	110.88
2	B	64	THR	CA-CB-OG1	-6.45	99.93	109.60
2	W	164	PHE	CA-CB-CG	-6.44	107.36	113.80
3	X	115	GLU	CB-CA-C	-6.44	100.73	110.90
3	P	115	GLU	CB-CA-C	-6.43	100.74	110.90
5	Z	519	ARG	CB-CA-C	-6.42	97.64	110.42
3	V	7	GLU	CB-CA-C	-6.42	100.80	110.88
3	I	115	GLU	CB-CA-C	-6.41	100.78	110.90
3	E	7	GLU	CB-CA-C	-6.40	100.83	110.88
2	F	164	PHE	CA-CB-CG	-6.40	107.40	113.80
3	I	7	GLU	CB-CA-C	-6.39	100.84	110.88
3	a	53	LYS	CB-CA-C	-6.38	100.26	110.84
3	N	53	LYS	CB-CA-C	-6.37	100.27	110.84
3	K	115	GLU	CB-CA-C	-6.37	100.84	110.90
2	J	164	PHE	CA-CB-CG	-6.35	107.45	113.80
3	R	7	GLU	CB-CA-C	-6.35	100.91	110.88
3	T	53	LYS	CB-CA-C	-6.34	100.32	110.84
3	K	7	GLU	CB-CA-C	-6.32	100.97	110.88
3	C	7	GLU	CB-CA-C	-6.31	100.98	110.88
3	R	32	GLN	CB-CA-C	6.30	121.56	110.85
3	E	32	GLN	CB-CA-C	6.30	121.56	110.85
3	X	7	GLU	CB-CA-C	-6.29	101.00	110.88
2	Q	60	PHE	CA-CB-CG	-6.27	107.53	113.80
3	G	53	LYS	CB-CA-C	-6.25	100.46	110.84
2	S	164	PHE	CA-CB-CG	-6.19	107.61	113.80
3	P	7	GLU	CB-CA-C	-6.19	101.17	110.88
2	D	60	PHE	CA-CB-CG	-6.17	107.63	113.80
3	I	53	LYS	CB-CA-C	-6.17	100.61	110.84
3	C	53	LYS	CB-CA-C	-6.13	100.67	110.84
4	M	156	PHE	CA-CB-CG	-6.13	107.67	113.80
3	V	53	LYS	CB-CA-C	-6.13	100.67	110.84
3	X	108	TYR	CB-CA-C	6.11	120.93	110.86
3	P	53	LYS	CB-CA-C	-6.10	100.72	110.84
3	a	115	GLU	CB-CA-C	-6.10	101.27	110.90
5	Z	519	ARG	N-CA-CB	6.07	120.74	110.49
3	a	17	ARG	N-CA-CB	-6.06	100.72	111.08
3	N	115	GLU	CB-CA-C	-6.06	101.33	110.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	K	53	LYS	CB-CA-C	-6.05	100.80	110.84
5	Z	396	TYR	N-CA-CB	6.04	119.64	110.28
3	X	53	LYS	CB-CA-C	-6.04	100.82	110.84
3	N	17	ARG	N-CA-CB	-6.03	100.76	111.08
3	N	31	PHE	N-CA-CB	6.03	120.68	110.49
4	M	250	THR	CA-CB-OG1	-6.03	100.56	109.60
5	Z	499	PHE	CA-CB-CG	6.03	119.83	113.80
3	R	53	LYS	CB-CA-C	-5.94	100.99	110.84
3	E	53	LYS	CB-CA-C	-5.93	101.00	110.84
3	a	7	GLU	CB-CA-C	-5.91	101.60	110.88
3	N	7	GLU	CB-CA-C	-5.88	101.64	110.88
5	Z	554	ARG	CB-CA-C	5.86	116.79	108.76
3	K	108	TYR	CB-CA-C	5.72	120.30	110.86
4	M	224	PHE	N-CA-CB	5.69	120.10	110.49
3	a	31	PHE	N-CA-CB	5.64	120.03	110.49
2	H	125	ARG	CB-CA-C	-5.59	101.86	110.81
5	Z	368	ILE	N-CA-C	-5.57	107.06	112.29
3	C	2	LYS	CD-CE-NZ	-5.56	94.11	111.90
3	P	2	LYS	CD-CE-NZ	-5.51	94.25	111.90
3	C	108	TYR	CB-CA-C	5.51	119.95	110.86
2	H	125	ARG	NE-CZ-NH2	5.51	124.16	119.20
3	T	108	TYR	CB-CA-C	5.50	119.93	110.86
3	I	108	TYR	CB-CA-C	5.50	119.93	110.86
3	G	108	TYR	CB-CA-C	5.49	119.92	110.86
3	V	108	TYR	CB-CA-C	5.49	119.91	110.86
2	Q	68	ARG	N-CA-CB	5.47	116.65	110.03
3	a	108	TYR	CB-CA-C	5.47	119.88	110.86
5	Z	552	LEU	N-CA-CB	5.45	119.71	110.49
5	Z	551	PRO	N-CA-C	-5.44	102.90	111.34
2	Y	92	TYR	CA-CB-CG	-5.42	104.14	113.90
2	J	125	ARG	CB-CA-C	-5.42	102.14	110.81
3	N	30	ARG	N-CA-C	-5.41	103.39	110.53
2	S	134	MET	CG-SD-CE	-5.41	89.00	100.90
2	U	125	ARG	CB-CA-C	-5.39	102.18	110.81
3	a	30	ARG	N-CA-C	-5.39	103.42	110.53
3	N	53	LYS	N-CA-CB	5.38	118.86	109.72
3	a	53	LYS	N-CA-CB	5.37	118.86	109.72
3	E	108	TYR	CB-CA-C	5.37	119.72	110.86
2	J	106	GLU	CB-CA-C	-5.37	102.46	110.88
2	H	106	GLU	CB-CA-C	-5.36	102.46	110.88
3	N	108	TYR	CB-CA-C	5.33	119.66	110.86
3	R	108	TYR	CB-CA-C	5.33	119.65	110.86

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	M	155	ARG	NE-CZ-NH1	-5.32	116.18	121.50
3	K	102	THR	CA-CB-OG1	-5.32	101.62	109.60
3	T	53	LYS	N-CA-CB	5.31	118.75	109.72
3	C	102	THR	CA-CB-OG1	-5.31	101.64	109.60
2	W	125	ARG	CB-CA-C	-5.30	102.33	110.81
5	Z	364	THR	N-CA-CB	5.30	118.49	110.28
5	Z	430	ARG	NE-CZ-NH1	-5.29	116.21	121.50
2	U	149	THR	CA-CB-OG1	-5.27	101.69	109.60
2	F	125	ARG	CB-CA-C	-5.27	102.38	110.81
3	P	108	TYR	CB-CA-C	5.26	119.54	110.86
2	S	125	ARG	CB-CA-C	-5.25	102.41	110.81
3	R	81	LYS	CA-CB-CG	5.24	124.58	114.10
3	C	53	LYS	N-CA-CB	5.24	118.62	109.72
3	V	53	LYS	N-CA-CB	5.23	118.61	109.72
2	L	22	GLN	CB-CA-C	5.22	119.17	110.81
2	Q	22	GLN	CB-CA-C	5.22	119.17	110.81
3	V	102	THR	CA-CB-OG1	-5.22	101.77	109.60
2	W	22	GLN	CB-CA-C	5.22	119.16	110.81
3	G	17	ARG	NE-CZ-NH1	-5.22	116.28	121.50
3	N	102	THR	CA-CB-OG1	-5.21	101.79	109.60
3	T	2	LYS	CG-CD-CE	5.20	123.27	111.30
2	D	22	GLN	CB-CA-C	5.20	119.13	110.81
2	B	106	GLU	CB-CA-C	-5.19	102.73	110.88
3	P	53	LYS	N-CA-CB	5.19	118.54	109.72
3	G	53	LYS	N-CA-CB	5.19	118.54	109.72
2	J	22	GLN	CB-CA-C	5.19	119.11	110.81
3	K	53	LYS	N-CA-CB	5.17	118.52	109.72
2	Y	22	GLN	CB-CA-C	5.17	119.09	110.81
2	Y	106	GLU	CB-CA-C	-5.17	102.76	110.88
3	P	127	TYR	CA-CB-CG	-5.17	104.60	113.90
2	W	106	GLU	CB-CA-C	-5.15	102.79	110.88
5	Z	548	LEU	N-CA-CB	5.15	119.70	111.20
2	Q	106	GLU	CB-CA-C	-5.14	102.81	110.88
5	Z	456	PHE	N-CA-C	-5.14	102.68	110.28
5	Z	365	LYS	CA-C-N	-5.12	118.83	126.86
5	Z	365	LYS	C-N-CA	-5.12	118.83	126.86
2	U	106	GLU	CB-CA-C	-5.10	102.87	110.88
3	I	102	THR	CA-CB-OG1	-5.09	101.97	109.60
2	U	22	GLN	CB-CA-C	5.08	119.17	110.74
2	D	68	ARG	CB-CG-CD	5.07	122.97	111.30
2	Y	125	ARG	CG-CD-NE	-5.05	100.89	112.00
5	Z	358	PRO	N-CA-C	-5.05	103.18	111.21

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	a	102	THR	CA-CB-OG1	-5.05	102.03	109.60
3	E	102	THR	CA-CB-OG1	-5.04	102.03	109.60
3	X	102	THR	CA-CB-OG1	-5.04	102.03	109.60
3	K	127	TYR	CA-CB-CG	-5.04	104.83	113.90
3	X	53	LYS	N-CA-CB	5.03	118.27	109.72
4	M	118	TYR	CB-CA-C	-5.03	101.03	109.53
3	P	102	THR	CA-CB-OG1	-5.03	102.05	109.60
3	I	53	LYS	N-CA-CB	5.03	118.27	109.72
3	N	127	TYR	CA-CB-CG	-5.03	104.85	113.90
3	R	157	CYS	CB-CA-C	-5.02	102.97	110.90
3	E	157	CYS	CB-CA-C	-5.02	102.97	110.90
5	Z	436	ASP	CB-CA-C	5.01	120.39	110.42
2	U	92	TYR	CA-CB-CG	-5.01	104.89	113.90
2	Y	149	THR	CA-CB-OG1	-5.00	102.09	109.60

There are no chirality outliers.

All (76) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	51	ARG	Sidechain
1	A	58	ARG	Sidechain
1	A	61	ARG	Sidechain
1	A	65	ARG	Sidechain
2	B	125	ARG	Sidechain
2	B	77	ARG	Sidechain
2	B	78	ARG	Sidechain
3	C	114	ARG	Sidechain
2	D	125	ARG	Sidechain
2	D	77	ARG	Sidechain
2	D	78	ARG	Sidechain
2	F	125	ARG	Sidechain
2	F	91	ARG	Sidechain
3	G	17	ARG	Sidechain
2	H	108	ARG	Sidechain
2	H	78	ARG	Sidechain
3	I	17	ARG	Sidechain
3	I	30	ARG	Sidechain
3	I	33	ARG	Sidechain
3	I	42	ARG	Sidechain
2	J	78	ARG	Sidechain
3	K	17	ARG	Sidechain
2	L	108	ARG	Sidechain

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Mol	Chain	Res	Type	Group
2	L	125	ARG	Sidechain
2	L	78	ARG	Sidechain
4	M	124	ARG	Sidechain
4	M	133	ARG	Sidechain
4	M	140	ARG	Sidechain
4	M	155	ARG	Sidechain
4	M	176	ARG	Sidechain
4	M	222	ARG	Sidechain
4	M	237	ARG	Sidechain
4	M	259	ARG	Sidechain
4	M	260	ARG	Sidechain
4	M	268	ARG	Sidechain
4	M	65	ARG	Sidechain
3	N	17	ARG	Sidechain
3	N	30	ARG	Sidechain
2	O	108	ARG	Sidechain
2	O	125	ARG	Sidechain
2	O	78	ARG	Sidechain
2	O	91	ARG	Sidechain
3	P	114	ARG	Sidechain
2	Q	108	ARG	Sidechain
2	Q	125	ARG	Sidechain
2	Q	129	ARG	Sidechain
2	Q	77	ARG	Sidechain
2	Q	78	ARG	Sidechain
2	S	78	ARG	Sidechain
2	S	91	ARG	Sidechain
3	T	114	ARG	Sidechain
3	T	17	ARG	Sidechain
2	U	108	ARG	Sidechain
2	U	125	ARG	Sidechain
2	U	78	ARG	Sidechain
3	V	30	ARG	Sidechain
3	V	33	ARG	Sidechain
3	V	42	ARG	Sidechain
2	W	78	ARG	Sidechain
2	Y	108	ARG	Sidechain
2	Y	125	ARG	Sidechain
2	Y	78	ARG	Sidechain
2	Y	84	ARG	Sidechain
5	Z	342	ARG	Sidechain
5	Z	393	ARG	Sidechain

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Mol	Chain	Res	Type	Group
5	Z	410	ARG	Sidechain
5	Z	430	ARG	Sidechain
5	Z	444	ARG	Sidechain
5	Z	450	ARG	Sidechain
5	Z	462	ARG	Sidechain
5	Z	496	ARG	Sidechain
5	Z	497	ARG	Sidechain
5	Z	508	ARG	Sidechain
5	Z	554	ARG	Sidechain
3	a	17	ARG	Sidechain
3	a	30	ARG	Sidechain

5.2 Too-close contacts (i)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	570	0	579	28	0
2	B	1293	0	1301	56	0
2	D	1293	0	1301	78	0
2	F	1293	0	1301	52	0
2	H	1293	0	1301	65	0
2	J	1293	0	1301	53	0
2	L	1293	0	1301	64	0
2	O	1293	0	1301	42	0
2	Q	1293	0	1301	52	0
2	S	1293	0	1301	51	0
2	U	1293	0	1301	59	0
2	W	1293	0	1301	56	0
2	Y	1293	0	1301	56	0
3	C	1243	0	1225	55	0
3	E	1243	0	1225	46	0
3	G	1243	0	1225	56	0
3	I	1243	0	1225	48	0
3	K	1243	0	1225	48	0
3	N	1243	0	1225	47	0
3	P	1243	0	1225	54	0
3	R	1243	0	1225	43	0
3	T	1243	0	1225	56	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	V	1243	0	1225	52	0
3	X	1243	0	1225	48	0
3	a	1243	0	1225	49	0
4	M	2173	0	2145	93	0
5	Z	1753	0	1705	75	0
6	B	86	0	74	15	0
6	C	43	0	37	8	0
6	D	86	0	74	21	0
6	E	43	0	37	2	0
6	F	86	0	74	16	0
6	G	43	0	37	8	0
6	H	86	0	74	26	0
6	I	43	0	37	8	0
6	J	86	0	74	17	0
6	K	43	0	37	5	0
6	L	86	0	74	9	0
6	N	43	0	37	5	0
6	O	86	0	74	9	0
6	P	43	0	37	10	0
6	Q	86	0	74	21	0
6	R	43	0	37	4	0
6	S	86	0	74	9	0
6	T	43	0	37	5	0
6	U	86	0	74	12	0
6	V	43	0	37	7	0
6	W	86	0	74	20	0
6	X	43	0	37	6	0
6	Y	86	0	74	14	0
6	a	43	0	37	4	0
All	All	36476	0	36073	1544	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 21.

All (1544) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:2:LYS:HZ3	3:G:17:ARG:NH2	1.34	1.26
6:H:201:CYC:NB	6:H:201:CYC:HMA1	1.55	1.21
2:L:117:TYR:CD1	2:L:122:THR:HG21	1.84	1.13
2:Y:117:TYR:CD1	2:Y:122:THR:HG21	1.86	1.11

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:H:201:CYC:HMA1	6:H:201:CYC:HB	1.03	1.10
3:P:2:LYS:HZ3	3:T:17:ARG:NH2	1.48	1.10
6:F:202:CYC:HMA1	6:F:202:CYC:NB	1.69	1.08
3:P:2:LYS:HZ1	3:T:17:ARG:CZ	1.67	1.05
3:P:2:LYS:NZ	3:T:17:ARG:NH2	2.03	1.05
4:M:160:THR:HB	4:M:257:GLN:HB3	1.38	1.05
3:C:2:LYS:NZ	3:G:17:ARG:NH2	2.05	1.03
6:Y:202:CYC:NC	6:Y:202:CYC:HMD1	1.74	1.02
6:J:201:CYC:HB	6:J:201:CYC:HMA1	1.22	1.01
6:F:202:CYC:HMA1	6:F:202:CYC:HB	0.86	1.00
4:M:132:LEU:O	4:M:133:ARG:HG2	1.62	0.99
5:Z:498:VAL:HG21	5:Z:508:ARG:HD3	1.44	0.99
2:L:14:LEU:HD13	2:W:125:ARG:CZ	1.93	0.96
6:J:201:CYC:HMA1	6:J:201:CYC:NB	1.81	0.96
6:S:202:CYC:HB	6:S:202:CYC:HMA1	1.29	0.96
6:U:201:CYC:HMA1	6:U:201:CYC:HB	1.31	0.96
6:C:201:CYC:NB	6:C:201:CYC:HMA1	1.82	0.95
3:P:2:LYS:NZ	3:T:17:ARG:CZ	2.30	0.94
6:U:201:CYC:HMA1	6:U:201:CYC:NB	1.85	0.92
6:S:202:CYC:HMA1	6:S:202:CYC:NB	1.85	0.91
3:C:2:LYS:NZ	3:G:17:ARG:CZ	2.33	0.90
6:F:202:CYC:HB	6:F:202:CYC:CMA	1.81	0.89
2:L:14:LEU:HD13	2:W:125:ARG:NH2	1.87	0.89
5:Z:435:SER:O	5:Z:436:ASP:C	2.15	0.88
6:H:201:CYC:HB	6:H:201:CYC:CMA	1.86	0.88
5:Z:372:ALA:HB3	5:Z:373:PRO:HD3	1.54	0.87
6:I:201:CYC:HMD3	6:I:201:CYC:HC	1.36	0.87
4:M:156:PHE:O	4:M:160:THR:HG22	1.75	0.87
6:Q:202:CYC:NC	6:Q:202:CYC:HMD1	1.90	0.86
3:C:2:LYS:HZ1	3:G:17:ARG:CZ	1.86	0.86
2:B:9:ILE:HD11	3:a:99:ALA:HB2	1.56	0.86
6:J:201:CYC:HB	6:J:201:CYC:CMA	1.89	0.84
3:N:99:ALA:HB2	2:O:9:ILE:HD11	1.56	0.84
3:C:2:LYS:HZ3	3:G:17:ARG:HH21	1.25	0.83
3:R:76:ASP:OD1	3:R:77:THR:N	2.13	0.82
3:G:76:ASP:OD1	3:G:77:THR:N	2.13	0.82
3:P:76:ASP:OD1	3:P:77:THR:N	2.13	0.82
3:T:76:ASP:OD1	3:T:77:THR:N	2.13	0.82
3:V:76:ASP:OD1	3:V:77:THR:N	2.13	0.81
3:X:76:ASP:OD1	3:X:77:THR:N	2.13	0.81
3:I:76:ASP:OD1	3:I:77:THR:N	2.13	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:76:ASP:OD1	3:C:77:THR:N	2.12	0.81
6:D:202:CYC:HMD1	6:D:202:CYC:NC	1.96	0.81
3:E:76:ASP:OD1	3:E:77:THR:N	2.13	0.81
3:K:76:ASP:OD1	3:K:77:THR:N	2.13	0.81
1:A:14:LEU:CD1	1:A:72:GLY:HA3	2.11	0.79
2:D:145:PRO:HG2	6:D:201:CYC:HMC1	1.64	0.79
1:A:14:LEU:HD12	1:A:72:GLY:HA3	1.62	0.79
2:L:117:TYR:CD1	2:L:122:THR:CG2	2.66	0.79
3:P:2:LYS:HZ3	3:T:17:ARG:HH21	1.28	0.79
6:T:201:CYC:O1A	6:T:201:CYC:C2A	2.31	0.78
4:M:3:VAL:HG22	4:M:76:ALA:HB2	1.65	0.78
1:A:21:LEU:HD11	1:A:25:LEU:HB2	1.66	0.77
3:N:99:ALA:HB2	2:O:9:ILE:CD1	2.13	0.77
2:H:116:THR:HG23	4:M:134:ASN:ND2	2.00	0.77
6:Q:202:CYC:HB	6:Q:202:CYC:HMA3	1.48	0.77
1:A:21:LEU:CD1	1:A:25:LEU:HB2	2.14	0.76
6:W:202:CYC:HMA1	6:W:202:CYC:NB	2.00	0.76
6:C:201:CYC:NB	6:C:201:CYC:CMA	2.49	0.76
5:Z:551:PRO:O	5:Z:552:LEU:HB2	1.85	0.76
5:Z:372:ALA:HB3	5:Z:373:PRO:CD	2.17	0.75
2:F:145:PRO:HD2	6:F:201:CYC:HMC3	1.67	0.75
2:B:9:ILE:CD1	3:a:99:ALA:HB2	2.16	0.75
1:A:21:LEU:HD11	1:A:25:LEU:CB	2.15	0.75
2:Y:117:TYR:CD1	2:Y:122:THR:CG2	2.68	0.74
2:S:108:ARG:HH22	5:Z:448:ASN:HD21	1.34	0.74
2:W:88:ILE:HG21	6:W:201:CYC:HAB1	1.69	0.74
6:V:201:CYC:HMD1	6:V:201:CYC:HC	1.52	0.73
2:Y:107:ASP:O	2:Y:111:ASN:HB3	1.88	0.73
2:J:39:ASP:OD1	6:J:202:CYC:HHB	1.88	0.72
2:D:108:ARG:HH12	4:M:162:ASN:HB2	1.54	0.72
4:M:245:ASP:O	4:M:246:ALA:HB3	1.90	0.72
2:B:108:ARG:CZ	4:M:94:TRP:CD1	2.73	0.72
2:Y:88:ILE:HG21	6:Y:202:CYC:HAB1	1.72	0.71
2:D:92:TYR:CE1	2:D:108:ARG:HG2	2.25	0.70
4:M:160:THR:CB	4:M:257:GLN:HB3	2.18	0.70
5:Z:399:ILE:C	5:Z:400:PHE:O	2.31	0.70
3:V:42:ARG:NH1	2:W:21:GLU:OE1	2.24	0.69
2:H:39:ASP:OD1	6:H:202:CYC:HHB	1.93	0.69
6:I:201:CYC:HC	6:I:201:CYC:CMD	2.04	0.69
4:M:132:LEU:O	4:M:133:ARG:CG	2.39	0.69
2:U:87:GLU:CD	2:U:87:GLU:C	2.62	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:J:202:CYC:HMA1	6:J:202:CYC:NB	2.08	0.68
2:L:117:TYR:HD1	2:L:122:THR:HG21	1.55	0.68
6:I:201:CYC:HMD3	6:I:201:CYC:NC	2.07	0.68
3:V:49:ASP:OD1	3:V:50:SER:N	2.26	0.68
2:W:87:GLU:CD	2:W:87:GLU:C	2.61	0.68
2:H:87:GLU:C	2:H:87:GLU:CD	2.62	0.68
3:E:49:ASP:OD1	3:E:50:SER:N	2.26	0.68
4:M:191:TYR:HB2	4:M:199:GLU:OE1	1.93	0.67
6:P:201:CYC:NB	6:P:201:CYC:CMA	2.56	0.67
3:C:49:ASP:OD1	3:C:50:SER:N	2.26	0.67
1:A:3:LEU:HB3	1:A:46:ILE:HG13	1.75	0.67
2:J:82:CYS:HB2	6:J:201:CYC:HMD3	1.76	0.67
3:K:49:ASP:OD1	3:K:50:SER:N	2.26	0.67
3:V:17:ARG:HH22	3:V:23:GLU:CD	2.03	0.67
2:J:87:GLU:C	2:J:87:GLU:CD	2.62	0.67
3:T:49:ASP:OD1	3:T:50:SER:N	2.26	0.67
6:Y:201:CYC:NB	6:Y:201:CYC:HMA1	2.10	0.66
2:D:84:ARG:CZ	4:M:188:LEU:HD22	2.26	0.66
3:R:49:ASP:OD1	3:R:50:SER:N	2.26	0.66
3:G:82:CYS:HB2	6:G:201:CYC:NC	2.10	0.66
6:L:201:CYC:NC	6:L:201:CYC:HMD1	2.11	0.66
4:M:243:ARG:HG2	4:M:260:ARG:NH1	2.11	0.66
3:P:17:ARG:HH22	3:P:23:GLU:CD	2.04	0.66
3:C:115:GLU:OE1	3:C:115:GLU:N	2.28	0.66
3:P:115:GLU:N	3:P:115:GLU:OE1	2.28	0.66
5:Z:365:LYS:O	5:Z:366:LEU:CB	2.44	0.66
5:Z:392:ILE:HG22	5:Z:396:TYR:CE2	2.30	0.66
5:Z:392:ILE:HG22	5:Z:396:TYR:HE2	1.59	0.66
3:a:115:GLU:OE1	3:a:115:GLU:N	2.28	0.66
2:D:145:PRO:CG	6:D:201:CYC:HMC1	2.26	0.66
6:H:201:CYC:HMA1	6:H:201:CYC:C1B	2.25	0.66
3:K:115:GLU:OE1	3:K:115:GLU:N	2.28	0.66
3:a:49:ASP:OD1	3:a:50:SER:N	2.26	0.66
3:I:17:ARG:HH22	3:I:23:GLU:CD	2.03	0.66
4:M:175:GLY:HA3	4:M:222:ARG:H	1.60	0.66
3:C:17:ARG:HH22	3:C:23:GLU:CD	2.03	0.65
6:C:201:CYC:NC	6:C:201:CYC:HMD1	2.10	0.65
2:Q:145:PRO:HG2	6:Q:201:CYC:HMC1	1.78	0.65
6:B:202:CYC:HMA2	6:B:202:CYC:HB	1.62	0.65
2:D:111:ASN:ND2	4:M:258:LYS:HZ1	1.95	0.65
2:D:145:PRO:CD	6:D:201:CYC:HMC1	2.27	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:145:PRO:HD2	6:D:201:CYC:HMC1	1.77	0.65
6:W:202:CYC:O1A	6:W:202:CYC:CHA	2.45	0.65
2:H:144:SER:N	2:H:145:PRO:HD3	2.12	0.65
3:I:49:ASP:OD1	3:I:50:SER:N	2.26	0.65
4:M:253:ASN:OD1	4:M:256:GLY:HA2	1.96	0.65
5:Z:372:ALA:CB	5:Z:373:PRO:HD3	2.26	0.65
5:Z:528:PHE:CD2	5:Z:529:ALA:O	2.50	0.65
1:A:38:PRO:HG3	6:B:202:CYC:HBB2	1.77	0.65
2:O:144:SER:N	2:O:145:PRO:HD3	2.12	0.65
6:D:202:CYC:HBA2	4:M:185:ALA:HB2	1.79	0.64
2:F:144:SER:N	2:F:145:PRO:HD3	2.12	0.64
3:N:115:GLU:OE1	3:N:115:GLU:N	2.28	0.64
2:W:144:SER:N	2:W:145:PRO:HD3	2.12	0.64
2:F:148:VAL:HG11	6:F:201:CYC:CHD	2.27	0.64
4:M:241:LEU:HD23	4:M:260:ARG:HB2	1.78	0.64
3:a:82:CYS:HB2	6:a:201:CYC:NC	2.12	0.64
2:D:144:SER:N	2:D:145:PRO:HD3	2.13	0.64
2:Y:144:SER:N	2:Y:145:PRO:HD3	2.13	0.64
2:B:144:SER:N	2:B:145:PRO:HD3	2.13	0.64
3:N:49:ASP:OD1	3:N:50:SER:N	2.26	0.64
3:X:49:ASP:OD1	3:X:50:SER:N	2.26	0.64
2:J:144:SER:N	2:J:145:PRO:HD3	2.13	0.64
2:S:144:SER:N	2:S:145:PRO:HD3	2.12	0.64
3:P:17:ARG:NH2	3:T:2:LYS:HZ3	1.95	0.64
2:Q:144:SER:N	2:Q:145:PRO:HD3	2.12	0.64
2:L:144:SER:N	2:L:145:PRO:HD3	2.13	0.64
3:C:73:GLY:HA2	6:C:201:CYC:OC	1.98	0.63
2:S:145:PRO:HD2	6:S:201:CYC:HMC3	1.79	0.63
2:H:23:GLU:HA	2:H:26:GLN:OE1	1.98	0.63
3:N:82:CYS:HB2	6:N:201:CYC:NC	2.14	0.63
2:U:144:SER:N	2:U:145:PRO:HD3	2.12	0.63
2:H:84:ARG:NH2	6:H:201:CYC:O2A	2.19	0.63
2:U:23:GLU:HA	2:U:26:GLN:OE1	1.98	0.63
2:L:14:LEU:HD22	2:W:125:ARG:NH1	2.14	0.63
3:P:49:ASP:OD1	3:P:50:SER:N	2.26	0.63
5:Z:411:VAL:HG23	5:Z:411:VAL:O	1.99	0.63
6:V:201:CYC:NB	6:V:201:CYC:CMA	2.62	0.62
6:C:201:CYC:HMA1	6:C:201:CYC:C1B	2.30	0.62
2:D:111:ASN:HD21	4:M:258:LYS:HZ1	1.46	0.62
3:G:49:ASP:OD1	3:G:50:SER:N	2.26	0.62
2:Q:108:ARG:HH21	5:Z:517:ALA:HB2	1.64	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:X:201:CYC:NB	6:X:201:CYC:CMA	2.62	0.62
5:Z:501:GLU:O	5:Z:502:ASN:HB2	1.98	0.62
2:Y:39:ASP:OD1	6:Y:201:CYC:HHB	2.00	0.62
2:W:87:GLU:CD	2:W:88:ILE:N	2.57	0.62
2:U:87:GLU:CD	2:U:88:ILE:N	2.57	0.62
3:X:115:GLU:OE1	3:X:115:GLU:N	2.28	0.62
5:Z:365:LYS:O	5:Z:366:LEU:HB2	1.99	0.62
2:J:87:GLU:CD	2:J:88:ILE:N	2.58	0.62
2:L:39:ASP:OD1	6:L:202:CYC:HHB	2.00	0.62
3:K:82:CYS:HB2	6:K:201:CYC:C1C	2.30	0.62
2:D:92:TYR:CE1	2:D:108:ARG:CG	2.82	0.61
2:L:52:ILE:O	2:L:53:SER:C	2.43	0.61
4:M:190:ARG:HG3	4:M:194:PHE:HD2	1.64	0.61
6:U:202:CYC:HB	6:U:202:CYC:HMA2	1.64	0.61
2:H:52:ILE:O	2:H:53:SER:C	2.43	0.61
2:S:108:ARG:HH22	5:Z:448:ASN:ND2	1.98	0.61
3:P:55:ALA:O	3:P:56:VAL:C	2.44	0.61
6:U:202:CYC:CMA	6:U:202:CYC:NB	2.63	0.61
2:F:52:ILE:O	2:F:53:SER:C	2.44	0.61
2:F:125:ARG:NH2	2:U:70:GLY:HA2	2.15	0.61
1:A:21:LEU:HD23	1:A:43:TYR:CE1	2.36	0.61
2:U:52:ILE:O	2:U:53:SER:C	2.43	0.61
5:Z:462:ARG:HH21	5:Z:462:ARG:HG3	1.65	0.61
3:a:55:ALA:O	3:a:56:VAL:C	2.44	0.61
2:S:1:MET:HG2	2:S:2:GLN:H	1.65	0.61
3:X:55:ALA:O	3:X:56:VAL:C	2.44	0.61
4:M:68:ASP:OD1	4:M:68:ASP:C	2.43	0.61
4:M:119:VAL:HG13	4:M:151:LEU:HD21	1.83	0.61
2:H:87:GLU:CD	2:H:88:ILE:N	2.58	0.61
3:R:55:ALA:O	3:R:56:VAL:C	2.44	0.61
3:T:55:ALA:O	3:T:56:VAL:C	2.44	0.61
2:W:52:ILE:O	2:W:53:SER:C	2.44	0.61
2:D:1:MET:HG2	2:D:2:GLN:H	1.65	0.61
2:F:145:PRO:CD	6:F:201:CYC:HMC3	2.30	0.61
2:O:52:ILE:O	2:O:53:SER:C	2.44	0.61
3:T:82:CYS:HB2	6:T:201:CYC:NC	2.15	0.61
3:C:55:ALA:O	3:C:56:VAL:C	2.44	0.60
3:N:55:ALA:O	3:N:56:VAL:C	2.43	0.60
2:Q:52:ILE:O	2:Q:53:SER:C	2.43	0.60
2:D:52:ILE:O	2:D:53:SER:C	2.43	0.60
3:G:55:ALA:O	3:G:56:VAL:C	2.44	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:a:82:CYS:HB2	6:a:201:CYC:C1C	2.30	0.60
2:B:52:ILE:O	2:B:53:SER:C	2.44	0.60
3:I:55:ALA:O	3:I:56:VAL:C	2.44	0.60
2:W:39:ASP:OD1	6:W:202:CYC:HHB	2.01	0.60
6:B:202:CYC:NB	6:B:202:CYC:CMA	2.64	0.60
2:U:39:ASP:OD1	6:U:202:CYC:HHB	2.01	0.60
2:Y:52:ILE:O	2:Y:53:SER:C	2.43	0.60
4:M:176:ARG:HG3	4:M:176:ARG:HH11	1.67	0.60
5:Z:401:GLY:C	5:Z:403:THR:H	2.09	0.60
2:D:39:ASP:OD1	6:D:201:CYC:HHB	2.02	0.60
6:G:201:CYC:NC	6:G:201:CYC:HMD1	2.17	0.60
6:Y:202:CYC:HMD1	6:Y:202:CYC:HC	1.63	0.60
2:F:1:MET:HG2	2:F:2:GLN:H	1.66	0.60
2:H:1:MET:HG2	2:H:2:GLN:H	1.66	0.60
2:D:33:GLU:O	2:D:34:SER:C	2.45	0.60
3:K:55:ALA:O	3:K:56:VAL:C	2.44	0.60
4:M:41:ASN:HD22	2:W:116:THR:HA	1.66	0.60
6:B:202:CYC:HB	6:B:202:CYC:CMA	2.14	0.59
6:W:202:CYC:O1A	6:W:202:CYC:C1A	2.49	0.59
1:A:21:LEU:CD1	1:A:25:LEU:CB	2.79	0.59
2:B:84:ARG:NH2	6:B:202:CYC:O2A	2.31	0.59
2:U:33:GLU:O	2:U:34:SER:C	2.45	0.59
2:O:33:GLU:O	2:O:34:SER:C	2.46	0.59
3:T:82:CYS:HB2	6:T:201:CYC:C1C	2.32	0.59
2:U:1:MET:HG2	2:U:2:GLN:H	1.66	0.59
3:E:55:ALA:O	3:E:56:VAL:C	2.44	0.59
2:J:52:ILE:O	2:J:53:SER:C	2.43	0.59
2:W:65:ASP:OD1	2:W:66:LEU:N	2.36	0.59
2:O:83:LEU:HD13	3:V:119:THR:HG21	1.85	0.59
2:L:33:GLU:O	2:L:34:SER:C	2.45	0.59
2:Y:33:GLU:O	2:Y:34:SER:C	2.46	0.59
2:H:33:GLU:O	2:H:34:SER:C	2.45	0.59
3:V:55:ALA:O	3:V:56:VAL:C	2.44	0.59
2:B:33:GLU:O	2:B:34:SER:C	2.46	0.58
6:H:201:CYC:O2A	6:H:201:CYC:C2A	2.51	0.58
2:O:65:ASP:OD1	2:O:66:LEU:N	2.36	0.58
2:B:65:ASP:OD1	2:B:66:LEU:N	2.37	0.58
2:S:65:ASP:OD1	2:S:66:LEU:N	2.36	0.58
2:U:65:ASP:OD1	2:U:66:LEU:N	2.36	0.58
6:V:201:CYC:HHA	6:V:201:CYC:O1A	2.02	0.58
2:S:52:ILE:O	2:S:53:SER:C	2.44	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:V:77:THR:HG23	3:V:78:ASN:N	2.19	0.58
3:X:82:CYS:HB2	6:X:201:CYC:C1C	2.33	0.58
2:Q:33:GLU:O	2:Q:34:SER:C	2.46	0.58
2:Q:145:PRO:HD2	6:Q:201:CYC:HMC1	1.85	0.58
2:S:33:GLU:O	2:S:34:SER:C	2.46	0.58
6:S:202:CYC:HB	6:S:202:CYC:CMA	2.12	0.58
2:J:65:ASP:OD1	2:J:66:LEU:N	2.37	0.58
6:U:202:CYC:HB	6:U:202:CYC:CMA	2.17	0.58
2:F:65:ASP:OD1	2:F:66:LEU:N	2.36	0.58
2:Q:1:MET:HG2	2:Q:2:GLN:H	1.66	0.58
3:I:77:THR:HG23	3:I:78:ASN:N	2.19	0.58
3:N:82:CYS:HB2	6:N:201:CYC:C1C	2.34	0.58
2:D:92:TYR:CZ	2:D:108:ARG:CG	2.86	0.58
2:H:65:ASP:OD1	2:H:66:LEU:N	2.37	0.58
4:M:250:THR:CG2	4:M:252:LEU:HB2	2.33	0.58
6:N:201:CYC:NB	6:N:201:CYC:CMA	2.67	0.58
2:F:90:LEU:HB2	2:F:134:MET:HE1	1.86	0.57
3:K:82:CYS:HB2	6:K:201:CYC:NC	2.19	0.57
5:Z:528:PHE:CE2	5:Z:529:ALA:O	2.57	0.57
1:A:21:LEU:HD12	1:A:22:SER:N	2.19	0.57
2:L:88:ILE:HG21	6:L:201:CYC:HAB1	1.86	0.57
4:M:68:ASP:OD1	4:M:68:ASP:O	2.22	0.57
3:a:77:THR:HG23	3:a:78:ASN:N	2.19	0.57
6:a:201:CYC:NC	6:a:201:CYC:HMD1	2.18	0.57
3:N:77:THR:HG23	3:N:78:ASN:N	2.18	0.57
1:A:21:LEU:HD11	1:A:25:LEU:HB3	1.87	0.57
4:M:209:TYR:O	4:M:212:ALA:O	2.22	0.57
6:S:202:CYC:HMA3	5:Z:474:PHE:CD2	2.39	0.57
2:Y:92:TYR:O	2:Y:93:VAL:C	2.48	0.57
5:Z:392:ILE:CG2	5:Z:396:TYR:HE2	2.17	0.57
2:H:85:ASP:OD2	6:H:201:CYC:NA	2.38	0.57
2:F:33:GLU:O	2:F:34:SER:C	2.46	0.57
4:M:132:LEU:HD11	4:M:142:PHE:HB2	1.86	0.57
2:Y:117:TYR:HD1	2:Y:122:THR:HG21	1.58	0.57
4:M:160:THR:HB	4:M:257:GLN:CB	2.25	0.56
3:P:82:CYS:HB2	6:P:201:CYC:C1C	2.35	0.56
4:M:102:VAL:HG11	4:M:133:ARG:HB3	1.86	0.56
6:P:201:CYC:NC	6:P:201:CYC:HMD1	2.19	0.56
2:Q:92:TYR:O	2:Q:93:VAL:C	2.47	0.56
2:Q:145:PRO:CD	6:Q:201:CYC:HMC1	2.35	0.56
2:U:84:ARG:NH2	6:U:201:CYC:O2A	2.24	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:Z:355:GLU:N	5:Z:355:GLU:OE1	2.37	0.56
5:Z:516:GLN:O	5:Z:517:ALA:HB3	2.04	0.56
3:E:126:TRP:O	3:E:127:TYR:C	2.49	0.56
2:H:82:CYS:HA	6:H:201:CYC:CHD	2.36	0.56
6:H:201:CYC:O2A	6:H:201:CYC:C1A	2.53	0.56
2:H:92:TYR:O	2:H:93:VAL:C	2.48	0.56
6:T:201:CYC:CMA	6:T:201:CYC:NB	2.68	0.56
3:C:126:TRP:O	3:C:127:TYR:C	2.49	0.56
3:P:126:TRP:O	3:P:127:TYR:C	2.49	0.56
3:T:126:TRP:O	3:T:127:TYR:C	2.49	0.56
6:W:202:CYC:NB	6:W:202:CYC:CMA	2.69	0.56
6:G:201:CYC:HMA1	6:G:201:CYC:NB	2.20	0.56
3:R:126:TRP:O	3:R:127:TYR:C	2.49	0.56
2:U:92:TYR:O	2:U:93:VAL:C	2.48	0.56
2:D:92:TYR:CZ	2:D:108:ARG:HG2	2.41	0.56
2:L:92:TYR:O	2:L:93:VAL:C	2.48	0.56
3:P:86:ILE:O	3:P:87:SER:C	2.49	0.56
2:W:92:TYR:O	2:W:93:VAL:C	2.48	0.56
2:B:92:TYR:O	2:B:93:VAL:C	2.47	0.55
2:D:92:TYR:O	2:D:93:VAL:C	2.48	0.55
3:I:86:ILE:O	3:I:87:SER:C	2.50	0.55
2:W:33:GLU:O	2:W:34:SER:C	2.49	0.55
5:Z:420:ASN:C	5:Z:420:ASN:OD1	2.49	0.55
2:D:114:LYS:HE3	2:D:124:THR:HG21	1.88	0.55
3:R:20:ASN:OD1	3:R:20:ASN:C	2.50	0.55
3:X:126:TRP:O	3:X:127:TYR:C	2.49	0.55
6:C:201:CYC:CMA	6:C:201:CYC:HB	2.17	0.55
3:G:151:ASN:O	3:G:152:ALA:C	2.50	0.55
6:O:202:CYC:HMA2	5:Z:420:ASN:ND2	2.21	0.55
6:W:201:CYC:CMD	6:W:201:CYC:NC	2.69	0.55
6:F:202:CYC:HBB2	6:F:202:CYC:OB	2.05	0.55
3:I:151:ASN:O	3:I:152:ALA:C	2.50	0.55
6:O:202:CYC:HAA1	5:Z:420:ASN:HD22	1.70	0.55
3:R:151:ASN:O	3:R:152:ALA:C	2.50	0.55
2:D:111:ASN:ND2	4:M:258:LYS:NZ	2.55	0.55
4:M:117:THR:HG22	4:M:155:ARG:NH2	2.22	0.55
6:Q:202:CYC:HB	6:Q:202:CYC:CMA	2.19	0.55
6:Q:202:CYC:HMA3	6:Q:202:CYC:NB	2.20	0.55
6:W:202:CYC:CMA	6:W:202:CYC:HB	2.20	0.55
5:Z:360:ALA:O	5:Z:364:THR:HG23	2.07	0.55
5:Z:442:PHE:HD1	5:Z:454:LEU:HD13	1.72	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:129:GLU:O	3:C:130:ALA:C	2.50	0.55
2:J:86:MET:HG3	6:J:201:CYC:HBC1	1.87	0.55
3:X:20:ASN:C	3:X:20:ASN:OD1	2.50	0.55
6:Y:202:CYC:HMD1	6:Y:202:CYC:C4C	2.37	0.55
3:G:20:ASN:C	3:G:20:ASN:OD1	2.50	0.55
2:J:33:GLU:O	2:J:34:SER:C	2.49	0.55
3:K:129:GLU:O	3:K:130:ALA:C	2.50	0.55
3:P:129:GLU:O	3:P:130:ALA:C	2.50	0.55
3:T:129:GLU:O	3:T:130:ALA:C	2.50	0.55
6:H:201:CYC:NB	6:H:201:CYC:CMA	2.49	0.55
3:N:126:TRP:O	3:N:127:TYR:C	2.50	0.55
3:P:20:ASN:OD1	3:P:20:ASN:C	2.49	0.55
3:T:86:ILE:O	3:T:87:SER:C	2.50	0.55
3:V:151:ASN:O	3:V:152:ALA:C	2.50	0.55
3:X:129:GLU:O	3:X:130:ALA:C	2.50	0.55
3:N:151:ASN:O	3:N:152:ALA:C	2.50	0.55
3:R:129:GLU:O	3:R:130:ALA:C	2.50	0.55
6:U:201:CYC:HB	6:U:201:CYC:CMA	2.12	0.55
2:B:39:ASP:OD1	6:B:201:CYC:HHB	2.06	0.54
2:D:109:CYS:HA	6:D:202:CYC:HBB1	1.89	0.54
3:G:102:THR:O	3:G:103:GLY:C	2.50	0.54
3:K:126:TRP:O	3:K:127:TYR:C	2.49	0.54
2:L:86:MET:HG3	6:L:201:CYC:HBC1	1.87	0.54
3:N:20:ASN:C	3:N:20:ASN:OD1	2.49	0.54
3:a:86:ILE:O	3:a:87:SER:C	2.50	0.54
3:E:102:THR:O	3:E:103:GLY:C	2.51	0.54
3:G:82:CYS:HB2	6:G:201:CYC:C1C	2.38	0.54
2:J:92:TYR:O	2:J:93:VAL:C	2.48	0.54
3:K:151:ASN:O	3:K:152:ALA:C	2.50	0.54
3:R:86:ILE:O	3:R:87:SER:C	2.50	0.54
6:R:201:CYC:NB	6:R:201:CYC:CMA	2.70	0.54
3:X:86:ILE:O	3:X:87:SER:C	2.50	0.54
3:C:86:ILE:O	3:C:87:SER:C	2.49	0.54
2:D:92:TYR:CZ	2:D:108:ARG:HG3	2.42	0.54
3:E:151:ASN:O	3:E:152:ALA:C	2.50	0.54
6:E:201:CYC:HMD1	6:E:201:CYC:NC	2.22	0.54
3:P:151:ASN:O	3:P:152:ALA:C	2.50	0.54
6:V:201:CYC:HMD1	6:V:201:CYC:NC	2.19	0.54
3:a:126:TRP:O	3:a:127:TYR:C	2.49	0.54
3:P:102:THR:O	3:P:103:GLY:C	2.50	0.54
3:T:20:ASN:OD1	3:T:20:ASN:C	2.50	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:V:20:ASN:C	3:V:20:ASN:OD1	2.50	0.54
6:W:201:CYC:CMA	6:W:201:CYC:HB	2.20	0.54
3:C:20:ASN:OD1	3:C:20:ASN:C	2.50	0.54
3:E:129:GLU:O	3:E:130:ALA:C	2.50	0.54
3:I:129:GLU:O	3:I:130:ALA:C	2.50	0.54
4:M:87:ILE:O	4:M:87:ILE:HD12	2.07	0.54
2:Q:70:GLY:O	5:Z:356:ALA:HA	2.06	0.54
3:T:52:VAL:O	3:T:53:LYS:C	2.51	0.54
3:T:151:ASN:O	3:T:152:ALA:C	2.50	0.54
5:Z:519:ARG:HG2	5:Z:554:ARG:HH12	1.71	0.54
3:C:82:CYS:HB2	6:C:201:CYC:NC	2.23	0.54
3:E:20:ASN:C	3:E:20:ASN:OD1	2.50	0.54
3:G:126:TRP:O	3:G:127:TYR:C	2.49	0.54
2:H:64:THR:O	2:H:67:ILE:HG12	2.08	0.54
3:I:52:VAL:O	3:I:53:LYS:C	2.51	0.54
3:K:20:ASN:OD1	3:K:20:ASN:C	2.50	0.54
3:a:20:ASN:OD1	3:a:20:ASN:C	2.50	0.54
3:a:151:ASN:O	3:a:152:ALA:C	2.50	0.54
3:C:151:ASN:O	3:C:152:ALA:C	2.50	0.54
2:S:148:VAL:HG11	6:S:201:CYC:CHD	2.38	0.54
3:a:129:GLU:O	3:a:130:ALA:C	2.50	0.54
2:D:117:TYR:HA	2:D:122:THR:HG23	1.90	0.54
3:I:20:ASN:C	3:I:20:ASN:OD1	2.50	0.54
3:V:129:GLU:O	3:V:130:ALA:C	2.50	0.54
3:X:151:ASN:O	3:X:152:ALA:C	2.50	0.54
3:a:77:THR:HG23	3:a:78:ASN:OD1	2.08	0.54
3:V:86:ILE:O	3:V:87:SER:C	2.50	0.54
3:I:126:TRP:O	3:I:127:TYR:C	2.49	0.54
3:R:52:VAL:O	3:R:53:LYS:C	2.51	0.54
3:C:52:VAL:O	3:C:53:LYS:C	2.51	0.53
3:E:115:GLU:OE1	3:E:115:GLU:N	2.39	0.53
3:K:102:THR:O	3:K:103:GLY:C	2.50	0.53
2:S:39:ASP:OD1	6:S:201:CYC:HHB	2.09	0.53
2:S:92:TYR:O	2:S:93:VAL:C	2.51	0.53
3:X:102:THR:O	3:X:103:GLY:C	2.50	0.53
3:N:102:THR:O	3:N:103:GLY:C	2.51	0.53
3:N:129:GLU:O	3:N:130:ALA:C	2.50	0.53
3:P:52:VAL:O	3:P:53:LYS:C	2.51	0.53
2:U:64:THR:O	2:U:67:ILE:HG12	2.07	0.53
2:U:87:GLU:OE1	2:U:88:ILE:N	2.42	0.53
3:V:102:THR:O	3:V:103:GLY:C	2.51	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:V:201:CYC:HC	6:V:201:CYC:CMD	2.18	0.53
2:W:82:CYS:HB2	6:W:201:CYC:HMD3	1.89	0.53
3:a:102:THR:O	3:a:103:GLY:C	2.51	0.53
2:H:50:GLU:O	2:H:51:ILE:C	2.51	0.53
2:F:50:GLU:O	2:F:51:ILE:C	2.51	0.53
2:Q:103:SER:O	2:Q:104:VAL:C	2.52	0.53
3:T:102:THR:O	3:T:103:GLY:C	2.50	0.53
1:A:19:ILE:O	1:A:42:SER:HA	2.08	0.53
3:C:102:THR:O	3:C:103:GLY:C	2.51	0.53
3:E:86:ILE:O	3:E:87:SER:C	2.50	0.53
2:F:47:ASN:O	2:F:48:ALA:C	2.52	0.53
3:N:77:THR:HG23	3:N:78:ASN:OD1	2.09	0.53
6:Q:201:CYC:CHA	6:Q:201:CYC:CGA	2.86	0.53
3:R:102:THR:O	3:R:103:GLY:C	2.51	0.53
2:U:50:GLU:O	2:U:51:ILE:C	2.52	0.53
2:D:78:ARG:HD2	6:D:202:CYC:HBD2	1.91	0.53
3:K:52:VAL:O	3:K:53:LYS:C	2.51	0.53
2:L:103:SER:O	2:L:104:VAL:C	2.51	0.53
2:Q:47:ASN:O	2:Q:48:ALA:C	2.51	0.53
2:W:87:GLU:OE1	2:W:88:ILE:N	2.42	0.53
3:I:42:ARG:NH1	2:J:21:GLU:OE1	2.41	0.53
2:L:50:GLU:O	2:L:51:ILE:C	2.52	0.53
4:M:250:THR:HG22	4:M:252:LEU:N	2.24	0.53
2:O:50:GLU:O	2:O:51:ILE:C	2.52	0.53
2:S:50:GLU:O	2:S:51:ILE:C	2.52	0.53
3:C:17:ARG:NH2	3:G:2:LYS:HZ3	2.05	0.53
2:D:86:MET:HG3	6:D:202:CYC:HBC1	1.91	0.53
2:D:103:SER:O	2:D:104:VAL:C	2.52	0.53
3:G:86:ILE:O	3:G:87:SER:C	2.50	0.53
3:G:129:GLU:O	3:G:130:ALA:C	2.50	0.53
2:H:87:GLU:OE1	2:H:88:ILE:N	2.42	0.53
6:H:201:CYC:HAA1	4:M:134:ASN:HB2	1.91	0.53
2:J:87:GLU:OE1	2:J:88:ILE:N	2.42	0.53
2:Q:50:GLU:O	2:Q:51:ILE:C	2.52	0.53
2:U:47:ASN:O	2:U:48:ALA:C	2.52	0.53
2:U:103:SER:O	2:U:104:VAL:C	2.52	0.53
2:D:47:ASN:O	2:D:48:ALA:C	2.51	0.53
2:F:125:ARG:HH21	2:U:70:GLY:HA2	1.72	0.53
3:I:77:THR:HG23	3:I:78:ASN:OD1	2.08	0.53
3:I:102:THR:O	3:I:103:GLY:C	2.51	0.53
2:O:47:ASN:O	2:O:48:ALA:C	2.52	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:Q:145:PRO:CG	6:Q:201:CYC:HMC1	2.39	0.53
2:Q:153:CYS:SG	6:Q:201:CYC:C1C	2.96	0.53
3:V:126:TRP:O	3:V:127:TYR:C	2.49	0.53
5:Z:438:TYR:O	5:Z:441:ARG:O	2.26	0.53
3:N:86:ILE:O	3:N:87:SER:C	2.50	0.53
2:S:90:LEU:HB2	2:S:134:MET:HE1	1.90	0.53
3:T:15:GLN:OE1	3:T:17:ARG:NH1	2.42	0.53
3:V:52:VAL:O	3:V:53:LYS:C	2.51	0.53
2:B:103:SER:OG	2:B:104:VAL:N	2.42	0.52
2:H:47:ASN:O	2:H:48:ALA:C	2.52	0.52
2:J:50:GLU:O	2:J:51:ILE:C	2.52	0.52
2:D:50:GLU:O	2:D:51:ILE:C	2.52	0.52
3:G:17:ARG:NH2	3:G:23:GLU:OE2	2.43	0.52
2:H:103:SER:O	2:H:104:VAL:C	2.52	0.52
4:M:272:GLY:O	4:M:273:ILE:C	2.52	0.52
6:O:201:CYC:C1A	6:O:201:CYC:O2A	2.58	0.52
2:D:145:PRO:HD2	6:D:201:CYC:CMC	2.39	0.52
3:G:115:GLU:OE1	3:G:115:GLU:N	2.39	0.52
3:V:77:THR:HG23	3:V:78:ASN:OD1	2.09	0.52
2:J:103:SER:O	2:J:104:VAL:C	2.52	0.52
5:Z:348:GLN:H	5:Z:348:GLN:CD	2.18	0.52
5:Z:546:ALA:O	5:Z:547:LYS:HG2	2.10	0.52
1:A:4:THR:HA	2:H:116:THR:OG1	2.10	0.52
3:I:124:PRO:O	3:I:125:SER:C	2.53	0.52
6:I:201:CYC:HMA1	6:I:201:CYC:NB	2.24	0.52
2:Y:50:GLU:O	2:Y:51:ILE:C	2.52	0.52
3:K:88:HIS:O	3:K:89:TYR:C	2.53	0.52
2:J:47:ASN:O	2:J:48:ALA:C	2.52	0.52
2:Y:47:ASN:O	2:Y:48:ALA:C	2.52	0.52
3:a:88:HIS:O	3:a:89:TYR:C	2.53	0.52
3:C:124:PRO:O	3:C:125:SER:C	2.53	0.52
2:F:92:TYR:O	2:F:93:VAL:C	2.51	0.52
3:N:124:PRO:O	3:N:125:SER:C	2.53	0.52
2:S:47:ASN:O	2:S:48:ALA:C	2.52	0.52
3:T:88:HIS:O	3:T:89:TYR:C	2.53	0.52
2:H:103:SER:OG	2:H:104:VAL:N	2.43	0.52
3:N:52:VAL:O	3:N:53:LYS:C	2.50	0.52
3:T:17:ARG:NH2	3:T:23:GLU:OE2	2.43	0.52
3:T:115:GLU:OE1	3:T:115:GLU:N	2.39	0.52
3:X:124:PRO:O	3:X:125:SER:C	2.53	0.52
2:Y:103:SER:OG	2:Y:104:VAL:N	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:103:SER:O	2:B:104:VAL:C	2.52	0.52
2:D:92:TYR:OH	2:D:108:ARG:CG	2.58	0.52
3:G:52:VAL:O	3:G:53:LYS:C	2.51	0.52
2:J:103:SER:OG	2:J:104:VAL:N	2.43	0.52
2:J:145:PRO:CD	6:J:202:CYC:HMC3	2.39	0.52
2:L:47:ASN:O	2:L:48:ALA:C	2.52	0.52
2:L:103:SER:OG	2:L:104:VAL:N	2.43	0.52
3:a:52:VAL:O	3:a:53:LYS:C	2.51	0.52
3:K:86:ILE:O	3:K:87:SER:C	2.50	0.51
2:D:92:TYR:OH	2:D:108:ARG:HG2	2.10	0.51
3:E:52:VAL:O	3:E:53:LYS:C	2.51	0.51
2:W:47:ASN:O	2:W:48:ALA:C	2.52	0.51
3:X:82:CYS:HB2	6:X:201:CYC:NC	2.26	0.51
2:B:47:ASN:O	2:B:48:ALA:C	2.52	0.51
3:E:88:HIS:O	3:E:89:TYR:C	2.53	0.51
6:O:202:CYC:HMA1	6:O:202:CYC:NB	2.25	0.51
2:S:103:SER:O	2:S:104:VAL:C	2.54	0.51
2:Y:103:SER:O	2:Y:104:VAL:C	2.52	0.51
5:Z:518:ALA:O	5:Z:519:ARG:HB2	2.11	0.51
3:a:124:PRO:O	3:a:125:SER:C	2.53	0.51
2:L:109:CYS:O	4:M:232:VAL:HG21	2.11	0.51
4:M:88:PRO:O	4:M:89:LEU:HB2	2.11	0.51
3:R:82:CYS:HB2	6:R:201:CYC:C1C	2.41	0.51
3:R:124:PRO:O	3:R:125:SER:C	2.54	0.51
2:S:160:ALA:O	2:S:161:ALA:C	2.54	0.51
2:U:160:ALA:O	2:U:161:ALA:C	2.54	0.51
2:W:160:ALA:O	2:W:161:ALA:C	2.53	0.51
2:J:160:ALA:O	2:J:161:ALA:C	2.54	0.51
3:K:124:PRO:O	3:K:125:SER:C	2.53	0.51
2:S:6:THR:O	2:S:9:ILE:HB	2.11	0.51
3:T:124:PRO:O	3:T:125:SER:C	2.53	0.51
2:B:50:GLU:O	2:B:51:ILE:C	2.52	0.51
2:D:160:ALA:O	2:D:161:ALA:C	2.54	0.51
2:H:160:ALA:O	2:H:161:ALA:C	2.54	0.51
4:M:135:GLY:O	4:M:136:SER:OG	2.24	0.51
3:P:17:ARG:CZ	3:T:2:LYS:NZ	2.73	0.51
3:X:52:VAL:O	3:X:53:LYS:C	2.51	0.51
5:Z:355:GLU:O	5:Z:355:GLU:HG2	2.09	0.51
2:F:134:MET:O	2:F:135:LYS:C	2.54	0.51
3:I:88:HIS:O	3:I:89:TYR:C	2.53	0.51
2:U:134:MET:O	2:U:135:LYS:C	2.54	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:115:GLU:HG2	4:M:74:LEU:HG	1.91	0.51
2:H:134:MET:O	2:H:135:LYS:C	2.54	0.51
2:O:76:ASN:O	2:O:77:ARG:C	2.54	0.51
6:P:201:CYC:NB	6:P:201:CYC:HMA2	2.26	0.51
3:R:155:ASP:O	3:R:156:TYR:C	2.54	0.51
2:D:6:THR:O	2:D:9:ILE:HB	2.11	0.51
2:D:134:MET:O	2:D:135:LYS:C	2.54	0.51
3:E:124:PRO:O	3:E:125:SER:C	2.53	0.51
2:F:160:ALA:O	2:F:161:ALA:C	2.53	0.51
3:G:124:PRO:O	3:G:125:SER:C	2.53	0.51
2:Q:103:SER:OG	2:Q:104:VAL:N	2.44	0.51
6:Q:201:CYC:NB	6:Q:201:CYC:CMA	2.74	0.51
2:W:103:SER:OG	2:W:104:VAL:N	2.44	0.51
2:Y:160:ALA:O	2:Y:161:ALA:C	2.54	0.51
2:F:64:THR:O	2:F:67:ILE:HG12	2.10	0.50
3:I:155:ASP:O	3:I:156:TYR:C	2.55	0.50
6:Q:201:CYC:CGA	6:Q:201:CYC:C1A	2.89	0.50
2:U:76:ASN:O	2:U:77:ARG:C	2.54	0.50
1:A:58:ARG:HH11	4:M:210:ILE:HD12	1.77	0.50
6:H:201:CYC:CMD	6:H:201:CYC:NC	2.74	0.50
6:O:201:CYC:O2A	6:O:201:CYC:C2A	2.59	0.50
2:Q:160:ALA:O	2:Q:161:ALA:C	2.54	0.50
3:T:155:ASP:O	3:T:156:TYR:C	2.54	0.50
2:W:50:GLU:O	2:W:51:ILE:C	2.52	0.50
2:W:103:SER:O	2:W:104:VAL:C	2.52	0.50
2:W:134:MET:O	2:W:135:LYS:C	2.54	0.50
1:A:27:HIS:HB2	1:A:34:ASP:HB3	1.93	0.50
2:B:160:ALA:O	2:B:161:ALA:C	2.54	0.50
3:C:88:HIS:O	3:C:89:TYR:C	2.54	0.50
3:G:88:HIS:O	3:G:89:TYR:C	2.53	0.50
6:K:201:CYC:NC	6:K:201:CYC:HMD1	2.26	0.50
2:L:160:ALA:O	2:L:161:ALA:C	2.54	0.50
4:M:144:ARG:NH2	4:M:205:ASP:OD1	2.44	0.50
2:Q:6:THR:O	2:Q:9:ILE:HB	2.11	0.50
2:U:103:SER:OG	2:U:104:VAL:N	2.43	0.50
3:V:88:HIS:O	3:V:89:TYR:C	2.53	0.50
6:V:201:CYC:NB	6:V:201:CYC:HMA2	2.26	0.50
3:X:88:HIS:O	3:X:89:TYR:C	2.54	0.50
2:D:103:SER:OG	2:D:104:VAL:N	2.43	0.50
6:D:201:CYC:HMA1	6:D:201:CYC:NB	2.26	0.50
2:F:103:SER:O	2:F:104:VAL:C	2.54	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:J:64:THR:O	2:J:67:ILE:HG12	2.11	0.50
3:N:155:ASP:O	3:N:156:TYR:C	2.54	0.50
3:P:155:ASP:O	3:P:156:TYR:C	2.54	0.50
2:Q:169:ALA:HB3	5:Z:559:THR:HB	1.91	0.50
2:U:6:THR:O	2:U:9:ILE:HB	2.12	0.50
2:U:88:ILE:O	2:U:89:ILE:C	2.55	0.50
3:V:124:PRO:O	3:V:125:SER:C	2.53	0.50
3:E:155:ASP:O	3:E:156:TYR:C	2.54	0.50
3:K:155:ASP:O	3:K:156:TYR:C	2.54	0.50
2:L:6:THR:O	2:L:9:ILE:HB	2.11	0.50
3:P:124:PRO:O	3:P:125:SER:C	2.53	0.50
2:B:29:ASN:OD1	2:B:30:LEU:N	2.45	0.50
2:B:134:MET:O	2:B:135:LYS:C	2.54	0.50
2:D:29:ASN:OD1	2:D:30:LEU:N	2.45	0.50
6:G:201:CYC:NC	6:G:201:CYC:CMD	2.74	0.50
2:J:88:ILE:O	2:J:89:ILE:C	2.55	0.50
2:Y:134:MET:O	2:Y:135:LYS:C	2.54	0.50
2:F:6:THR:O	2:F:9:ILE:HB	2.11	0.50
2:H:6:THR:O	2:H:9:ILE:HB	2.12	0.50
2:H:76:ASN:O	2:H:77:ARG:C	2.54	0.50
2:Q:29:ASN:OD1	2:Q:30:LEU:N	2.45	0.50
3:X:155:ASP:O	3:X:156:TYR:C	2.54	0.50
2:B:88:ILE:O	2:B:89:ILE:C	2.55	0.50
2:O:29:ASN:OD1	2:O:30:LEU:N	2.45	0.50
3:P:17:ARG:NH2	3:T:2:LYS:NZ	2.60	0.50
2:Q:134:MET:O	2:Q:135:LYS:C	2.54	0.50
2:S:88:ILE:O	2:S:89:ILE:C	2.55	0.50
2:U:29:ASN:OD1	2:U:30:LEU:N	2.45	0.50
5:Z:398:GLN:O	5:Z:400:PHE:O	2.30	0.50
2:B:78:ARG:O	2:B:79:MET:C	2.55	0.49
2:B:132:GLN:O	2:B:133:LEU:C	2.55	0.49
3:C:155:ASP:O	3:C:156:TYR:C	2.55	0.49
2:H:145:PRO:HD2	6:H:202:CYC:HMC3	1.94	0.49
6:H:202:CYC:NB	6:H:202:CYC:CMA	2.75	0.49
6:P:201:CYC:CMA	6:P:201:CYC:HB	2.25	0.49
2:U:78:ARG:O	2:U:79:MET:C	2.55	0.49
2:F:120:LEU:HD23	4:M:253:ASN:HB3	1.93	0.49
2:O:134:MET:O	2:O:135:LYS:C	2.54	0.49
2:W:88:ILE:O	2:W:89:ILE:C	2.55	0.49
1:A:53:LEU:HB3	1:A:54:PRO:HD3	1.93	0.49
6:C:201:CYC:NC	6:C:201:CYC:CMD	2.75	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:119:ALA:HB3	4:M:263:PRO:HB2	1.94	0.49
2:J:132:GLN:O	2:J:133:LEU:C	2.56	0.49
2:O:160:ALA:O	2:O:161:ALA:C	2.54	0.49
6:P:201:CYC:HC	6:P:201:CYC:CMD	2.25	0.49
2:S:78:ARG:O	2:S:79:MET:C	2.55	0.49
2:S:134:MET:O	2:S:135:LYS:C	2.54	0.49
2:W:6:THR:O	2:W:9:ILE:HB	2.13	0.49
2:W:64:THR:O	2:W:67:ILE:HG12	2.12	0.49
5:Z:420:ASN:OD1	5:Z:420:ASN:O	2.29	0.49
2:F:88:ILE:O	2:F:89:ILE:C	2.55	0.49
4:M:88:PRO:CB	4:M:220:TYR:HB2	2.42	0.49
4:M:175:GLY:HA3	4:M:222:ARG:N	2.27	0.49
3:P:88:HIS:O	3:P:89:TYR:C	2.54	0.49
2:Y:6:THR:O	2:Y:9:ILE:HB	2.11	0.49
2:H:116:THR:HG23	4:M:134:ASN:HD21	1.72	0.49
2:H:132:GLN:O	2:H:133:LEU:C	2.55	0.49
2:L:134:MET:O	2:L:135:LYS:C	2.54	0.49
4:M:132:LEU:HD12	4:M:137:ILE:HB	1.93	0.49
4:M:140:ARG:NH1	4:M:144:ARG:HH12	2.10	0.49
2:Q:39:ASP:OD1	6:Q:201:CYC:HHB	2.12	0.49
5:Z:515:GLY:O	5:Z:516:GLN:C	2.55	0.49
2:D:36:LYS:O	2:D:37:ARG:C	2.56	0.49
6:F:202:CYC:HHA	6:F:202:CYC:O1A	2.13	0.49
3:K:1:MET:SD	2:L:6:THR:HG23	2.52	0.49
6:L:201:CYC:HMD1	6:L:201:CYC:C1C	2.42	0.49
2:O:36:LYS:O	2:O:37:ARG:C	2.56	0.49
3:a:155:ASP:O	3:a:156:TYR:C	2.54	0.49
2:F:76:ASN:O	2:F:77:ARG:C	2.55	0.49
2:H:29:ASN:OD1	2:H:30:LEU:N	2.45	0.49
2:H:88:ILE:O	2:H:89:ILE:C	2.55	0.49
2:J:145:PRO:HD2	6:J:202:CYC:HMC3	1.94	0.49
2:L:117:TYR:HA	2:L:122:THR:HG22	1.95	0.49
4:M:114:PHE:CZ	4:M:151:LEU:HD23	2.46	0.49
3:N:88:HIS:O	3:N:89:TYR:C	2.53	0.49
2:S:76:ASN:O	2:S:77:ARG:C	2.55	0.49
2:S:103:SER:OG	2:S:104:VAL:N	2.46	0.49
3:E:114:ARG:HD2	3:I:118:ARG:NH2	2.28	0.49
2:F:132:GLN:O	2:F:133:LEU:C	2.55	0.49
2:J:6:THR:O	2:J:9:ILE:HB	2.12	0.49
2:O:132:GLN:O	2:O:133:LEU:C	2.55	0.49
2:S:36:LYS:O	2:S:37:ARG:C	2.56	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:W:132:GLN:O	2:W:133:LEU:C	2.56	0.49
2:B:36:LYS:O	2:B:37:ARG:C	2.56	0.49
2:D:153:CYS:SG	6:D:201:CYC:C1C	3.01	0.49
2:F:108:ARG:NH1	4:M:245:ASP:HB3	2.27	0.49
2:U:36:LYS:O	2:U:37:ARG:C	2.56	0.49
5:Z:362:ALA:O	5:Z:365:LYS:O	2.30	0.49
3:G:155:ASP:O	3:G:156:TYR:C	2.54	0.49
2:Y:48:ALA:O	2:Y:49:ALA:C	2.56	0.49
2:L:117:TYR:CG	2:L:122:THR:CG2	2.95	0.48
3:N:92:PHE:O	3:N:93:ILE:C	2.56	0.48
2:Y:145:PRO:HD2	6:Y:201:CYC:HMC3	1.95	0.48
3:E:92:PHE:O	3:E:93:ILE:C	2.57	0.48
3:G:92:PHE:O	3:G:93:ILE:C	2.56	0.48
3:I:115:GLU:OE1	3:I:115:GLU:N	2.39	0.48
6:W:201:CYC:HB	6:W:201:CYC:HMA2	1.78	0.48
2:B:76:ASN:O	2:B:77:ARG:C	2.54	0.48
2:B:82:CYS:HA	6:B:202:CYC:CHD	2.43	0.48
2:B:83:LEU:HD13	3:I:119:THR:HG21	1.94	0.48
2:J:134:MET:O	2:J:135:LYS:C	2.54	0.48
2:U:48:ALA:O	2:U:49:ALA:C	2.56	0.48
2:Y:117:TYR:CG	2:Y:122:THR:CG2	2.96	0.48
2:F:78:ARG:O	2:F:79:MET:C	2.55	0.48
2:L:117:TYR:CA	2:L:122:THR:HG22	2.43	0.48
3:P:17:ARG:NH2	3:P:23:GLU:OE2	2.45	0.48
2:W:36:LYS:O	2:W:37:ARG:C	2.56	0.48
1:A:27:HIS:HB2	1:A:34:ASP:CB	2.43	0.48
2:F:36:LYS:O	2:F:37:ARG:C	2.56	0.48
2:L:48:ALA:O	2:L:49:ALA:C	2.56	0.48
2:L:132:GLN:O	2:L:133:LEU:C	2.55	0.48
2:S:84:ARG:HG3	5:Z:478:HIS:CE1	2.47	0.48
2:W:76:ASN:O	2:W:77:ARG:C	2.55	0.48
3:X:90:LEU:O	3:X:91:ARG:C	2.57	0.48
2:Y:141:TYR:O	2:Y:142:VAL:C	2.56	0.48
1:A:1:SER:N	1:A:44:SER:HB2	2.28	0.48
3:I:90:LEU:O	3:I:91:ARG:C	2.57	0.48
2:J:48:ALA:O	2:J:49:ALA:C	2.57	0.48
3:K:90:LEU:O	3:K:91:ARG:C	2.56	0.48
2:Q:36:LYS:O	2:Q:37:ARG:C	2.56	0.48
2:U:141:TYR:O	2:U:142:VAL:C	2.56	0.48
2:B:141:TYR:O	2:B:142:VAL:C	2.57	0.48
3:C:91:ARG:HA	2:D:18:PHE:CE2	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:92:PHE:O	3:C:93:ILE:C	2.56	0.48
3:E:90:LEU:O	3:E:91:ARG:C	2.57	0.48
2:H:78:ARG:O	2:H:79:MET:C	2.56	0.48
3:K:92:PHE:O	3:K:93:ILE:C	2.57	0.48
2:Q:141:TYR:O	2:Q:142:VAL:C	2.57	0.48
3:R:145:GLN:O	3:R:146:PRO:C	2.56	0.48
3:V:90:LEU:O	3:V:91:ARG:C	2.57	0.48
3:V:92:PHE:O	3:V:93:ILE:C	2.56	0.48
3:E:145:GLN:O	3:E:146:PRO:C	2.56	0.48
2:H:36:LYS:O	2:H:37:ARG:C	2.56	0.48
2:H:148:VAL:HG11	6:H:202:CYC:C4C	2.44	0.48
4:M:75:GLU:O	4:M:76:ALA:C	2.57	0.48
4:M:170:PHE:O	4:M:174:LEU:O	2.32	0.48
3:N:90:LEU:O	3:N:91:ARG:C	2.57	0.48
3:P:90:LEU:O	3:P:91:ARG:C	2.56	0.48
3:P:92:PHE:O	3:P:93:ILE:C	2.56	0.48
2:Q:132:GLN:O	2:Q:133:LEU:C	2.55	0.48
3:V:145:GLN:O	3:V:146:PRO:C	2.57	0.48
2:Y:64:THR:O	2:Y:67:ILE:HG12	2.14	0.48
5:Z:463:ALA:HB2	5:Z:527:LEU:HD12	1.96	0.48
2:B:82:CYS:HB2	6:B:202:CYC:HMD3	1.95	0.48
3:C:90:LEU:O	3:C:91:ARG:C	2.57	0.48
3:E:127:TYR:O	3:E:128:ILE:C	2.57	0.48
3:E:155:ASP:O	3:E:158:ILE:N	2.47	0.48
2:F:103:SER:OG	2:F:104:VAL:N	2.46	0.48
3:G:127:TYR:O	3:G:128:ILE:C	2.57	0.48
2:J:88:ILE:HG21	6:J:201:CYC:HAB1	1.96	0.48
2:L:14:LEU:HD22	2:W:125:ARG:HH12	1.77	0.48
2:L:36:LYS:O	2:L:37:ARG:C	2.56	0.48
3:N:145:GLN:O	3:N:146:PRO:C	2.57	0.48
2:Q:48:ALA:O	2:Q:49:ALA:C	2.57	0.48
2:S:64:THR:O	2:S:67:ILE:HG12	2.13	0.48
3:X:145:GLN:O	3:X:146:PRO:C	2.57	0.48
5:Z:546:ALA:HB3	5:Z:549:THR:HG23	1.96	0.48
2:F:88:ILE:HG21	6:F:202:CYC:HAB1	1.96	0.48
6:F:202:CYC:OB	6:F:202:CYC:CBB	2.61	0.48
3:G:145:GLN:O	3:G:146:PRO:C	2.57	0.48
2:J:36:LYS:O	2:J:37:ARG:C	2.56	0.48
2:O:48:ALA:O	2:O:49:ALA:C	2.57	0.48
6:P:201:CYC:HMA2	6:P:201:CYC:HB	1.79	0.48
3:R:88:HIS:O	3:R:89:TYR:C	2.53	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:S:141:TYR:O	2:S:142:VAL:C	2.56	0.48
5:Z:435:SER:O	5:Z:437:LEU:N	2.46	0.48
2:B:6:THR:O	2:B:9:ILE:HB	2.14	0.47
2:D:132:GLN:O	2:D:133:LEU:C	2.55	0.47
2:D:141:TYR:O	2:D:142:VAL:C	2.57	0.47
2:F:39:ASP:OD1	6:F:201:CYC:HHB	2.14	0.47
2:F:48:ALA:O	2:F:49:ALA:C	2.56	0.47
3:I:155:ASP:O	3:I:158:ILE:N	2.47	0.47
2:J:78:ARG:O	2:J:79:MET:C	2.55	0.47
2:O:39:ASP:OD1	6:O:201:CYC:HHB	2.14	0.47
2:S:48:ALA:O	2:S:49:ALA:C	2.56	0.47
3:V:155:ASP:O	3:V:156:TYR:C	2.54	0.47
1:A:16:LYS:N	1:A:70:THR:O	2.47	0.47
3:C:155:ASP:O	3:C:158:ILE:N	2.47	0.47
6:I:201:CYC:HMA1	6:I:201:CYC:C1B	2.44	0.47
3:K:155:ASP:O	3:K:158:ILE:N	2.47	0.47
2:O:88:ILE:O	2:O:89:ILE:C	2.55	0.47
2:W:48:ALA:O	2:W:49:ALA:C	2.57	0.47
2:Y:117:TYR:CA	2:Y:122:THR:HG22	2.44	0.47
2:Y:132:GLN:O	2:Y:133:LEU:C	2.56	0.47
3:a:90:LEU:O	3:a:91:ARG:C	2.57	0.47
1:A:66:ILE:HD13	1:A:69:ILE:HD11	1.96	0.47
2:H:48:ALA:O	2:H:49:ALA:C	2.57	0.47
4:M:224:PHE:CE2	4:M:238:MET:HG3	2.48	0.47
2:U:132:GLN:O	2:U:133:LEU:C	2.56	0.47
2:W:141:TYR:O	2:W:142:VAL:C	2.57	0.47
2:Y:36:LYS:O	2:Y:37:ARG:C	2.56	0.47
3:a:145:GLN:O	3:a:146:PRO:C	2.57	0.47
1:A:7:ASN:HB3	4:M:137:ILE:HD11	1.96	0.47
6:D:201:CYC:CGA	6:D:201:CYC:C1A	2.92	0.47
3:K:94:THR:OG1	3:K:95:TYR:N	2.48	0.47
3:T:90:LEU:O	3:T:91:ARG:C	2.57	0.47
2:F:141:TYR:O	2:F:142:VAL:C	2.57	0.47
3:I:145:GLN:O	3:I:146:PRO:C	2.56	0.47
2:L:64:THR:O	2:L:67:ILE:HG12	2.14	0.47
2:O:6:THR:O	2:O:9:ILE:HB	2.15	0.47
2:O:141:TYR:O	2:O:142:VAL:C	2.57	0.47
3:R:92:PHE:O	3:R:93:ILE:C	2.57	0.47
2:U:26:GLN:O	2:U:29:ASN:OD1	2.33	0.47
3:V:33:ARG:HG3	3:X:25:GLN:HG2	1.97	0.47
2:W:145:PRO:HD2	6:W:202:CYC:HMC3	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:Z:435:SER:C	5:Z:437:LEU:N	2.69	0.47
3:a:155:ASP:O	3:a:158:ILE:N	2.47	0.47
3:C:94:THR:OG1	3:C:95:TYR:N	2.48	0.47
2:H:26:GLN:O	2:H:29:ASN:OD1	2.32	0.47
2:O:78:ARG:O	2:O:79:MET:C	2.55	0.47
3:X:92:PHE:O	3:X:93:ILE:C	2.57	0.47
2:B:48:ALA:O	2:B:49:ALA:C	2.57	0.47
2:B:104:VAL:HG13	2:B:105:LEU:N	2.30	0.47
6:B:202:CYC:HMA2	6:B:202:CYC:NB	2.29	0.47
2:H:35:ASN:HB3	6:H:202:CYC:C1A	2.45	0.47
2:J:76:ASN:O	2:J:77:ARG:C	2.55	0.47
6:J:202:CYC:NB	6:J:202:CYC:CMA	2.76	0.47
2:L:76:ASN:O	2:L:77:ARG:C	2.57	0.47
2:L:141:TYR:O	2:L:142:VAL:C	2.57	0.47
4:M:35:THR:HA	6:W:201:CYC:O2A	2.15	0.47
3:N:155:ASP:O	3:N:158:ILE:N	2.47	0.47
2:O:26:GLN:O	2:O:29:ASN:OD1	2.33	0.47
3:R:127:TYR:O	3:R:128:ILE:C	2.57	0.47
3:R:155:ASP:O	3:R:158:ILE:N	2.48	0.47
2:W:145:PRO:CD	6:W:202:CYC:HMC3	2.45	0.47
3:X:95:TYR:CG	2:Y:9:ILE:HG23	2.50	0.47
2:Y:103:SER:O	2:Y:106:GLU:N	2.48	0.47
3:C:17:ARG:CZ	3:G:2:LYS:NZ	2.78	0.47
2:D:88:ILE:O	2:D:89:ILE:C	2.58	0.47
4:M:90:LYS:HG2	4:M:220:TYR:CE2	2.50	0.47
2:O:125:ARG:HG3	2:O:125:ARG:HH11	1.78	0.47
2:Q:104:VAL:HG13	2:Q:105:LEU:N	2.29	0.47
3:R:82:CYS:HB2	6:R:201:CYC:NC	2.29	0.47
3:V:155:ASP:O	3:V:158:ILE:N	2.48	0.47
2:W:78:ARG:O	2:W:79:MET:C	2.56	0.47
2:W:103:SER:O	2:W:106:GLU:N	2.48	0.47
2:W:104:VAL:HG13	2:W:105:LEU:N	2.30	0.47
2:Y:104:VAL:HG13	2:Y:105:LEU:N	2.30	0.47
6:Y:201:CYC:NB	6:Y:201:CYC:CMA	2.77	0.47
1:A:56:MET:HG2	1:A:66:ILE:HD11	1.97	0.47
2:B:103:SER:O	2:B:106:GLU:N	2.47	0.47
3:C:145:GLN:O	3:C:146:PRO:C	2.57	0.47
2:D:48:ALA:O	2:D:49:ALA:C	2.57	0.47
2:D:102:ALA:O	2:D:103:SER:C	2.58	0.47
3:G:15:GLN:OE1	3:G:17:ARG:NH1	2.48	0.47
4:M:140:ARG:HH12	4:M:144:ARG:HH12	1.62	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:M:245:ASP:O	4:M:246:ALA:CB	2.57	0.47
3:N:94:THR:OG1	3:N:95:TYR:N	2.48	0.47
3:P:127:TYR:O	3:P:128:ILE:C	2.57	0.47
3:T:127:TYR:O	3:T:128:ILE:C	2.58	0.47
3:T:155:ASP:O	3:T:158:ILE:N	2.48	0.47
3:X:155:ASP:O	3:X:158:ILE:N	2.48	0.47
5:Z:359:ASP:O	5:Z:360:ALA:HB3	2.15	0.47
5:Z:392:ILE:CG2	5:Z:396:TYR:CE2	2.95	0.47
5:Z:518:ALA:O	5:Z:519:ARG:CB	2.63	0.47
2:D:26:GLN:O	2:D:29:ASN:OD1	2.33	0.47
3:G:90:LEU:O	3:G:91:ARG:C	2.57	0.47
2:J:103:SER:O	2:J:106:GLU:N	2.48	0.47
3:V:127:TYR:O	3:V:128:ILE:C	2.58	0.47
3:X:1:MET:SD	2:Y:6:THR:HG23	2.55	0.47
3:G:155:ASP:O	3:G:158:ILE:N	2.48	0.46
2:H:104:VAL:HG13	2:H:105:LEU:N	2.30	0.46
4:M:117:THR:HG21	4:M:155:ARG:HD3	1.97	0.46
4:M:194:PHE:HB3	4:M:198:ALA:CB	2.45	0.46
4:M:250:THR:HG22	4:M:252:LEU:H	1.80	0.46
2:Q:76:ASN:O	2:Q:77:ARG:C	2.58	0.46
2:Y:76:ASN:O	2:Y:77:ARG:C	2.56	0.46
2:B:85:ASP:OD2	6:B:202:CYC:NA	2.48	0.46
6:D:201:CYC:O1A	3:G:145:GLN:NE2	2.48	0.46
3:I:94:THR:OG1	3:I:95:TYR:N	2.48	0.46
2:J:85:ASP:O	2:J:86:MET:C	2.58	0.46
2:J:104:VAL:HG13	2:J:105:LEU:N	2.30	0.46
3:K:18:PHE:CE2	2:L:91:ARG:HA	2.50	0.46
2:L:88:ILE:O	2:L:89:ILE:C	2.57	0.46
4:M:88:PRO:O	4:M:89:LEU:CB	2.62	0.46
2:U:103:SER:O	2:U:106:GLU:N	2.48	0.46
6:U:201:CYC:O2A	6:U:201:CYC:C2A	2.64	0.46
3:X:57:GLN:HG2	5:Z:340:PRO:HB3	1.96	0.46
3:G:94:THR:OG1	3:G:95:TYR:N	2.48	0.46
6:J:201:CYC:NA	6:J:201:CYC:ND	2.63	0.46
2:L:14:LEU:CD1	2:W:125:ARG:NH2	2.71	0.46
3:R:127:TYR:O	3:R:130:ALA:HB3	2.16	0.46
3:P:155:ASP:O	3:P:158:ILE:N	2.48	0.46
2:B:102:ALA:O	2:B:103:SER:C	2.58	0.46
2:B:145:PRO:HD2	6:B:201:CYC:HMC3	1.96	0.46
2:H:94:SER:O	2:H:95:TYR:C	2.59	0.46
3:P:82:CYS:HB2	6:P:201:CYC:NC	2.30	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:U:104:VAL:HG13	2:U:105:LEU:N	2.30	0.46
5:Z:453:GLU:HG3	5:Z:454:LEU:N	2.30	0.46
2:B:94:SER:O	2:B:95:TYR:C	2.59	0.46
2:F:56:ALA:O	2:F:57:HIS:C	2.59	0.46
2:H:103:SER:O	2:H:106:GLU:N	2.48	0.46
3:K:127:TYR:O	3:K:128:ILE:C	2.57	0.46
2:L:102:ALA:O	2:L:103:SER:C	2.59	0.46
2:U:102:ALA:O	2:U:103:SER:C	2.58	0.46
3:a:94:THR:OG1	3:a:95:TYR:N	2.48	0.46
2:H:85:ASP:CG	6:H:201:CYC:HHB	2.41	0.46
3:K:145:GLN:O	3:K:146:PRO:C	2.57	0.46
3:R:90:LEU:O	3:R:91:ARG:C	2.57	0.46
2:S:56:ALA:O	2:S:57:HIS:C	2.59	0.46
3:T:145:GLN:O	3:T:146:PRO:C	2.57	0.46
2:D:94:SER:O	2:D:95:TYR:C	2.58	0.46
2:J:102:ALA:O	2:J:103:SER:C	2.59	0.46
6:P:201:CYC:NC	6:P:201:CYC:CMD	2.78	0.46
2:Q:78:ARG:O	2:Q:79:MET:C	2.58	0.46
1:A:14:LEU:HD12	1:A:72:GLY:CA	2.38	0.46
1:A:40:GLN:HB2	1:A:43:TYR:CE1	2.51	0.46
2:D:104:VAL:HG13	2:D:105:LEU:N	2.30	0.46
2:F:102:ALA:O	2:F:103:SER:C	2.59	0.46
2:H:141:TYR:O	2:H:142:VAL:C	2.56	0.46
3:I:20:ASN:OD1	3:I:22:THR:N	2.49	0.46
6:I:201:CYC:NB	6:I:201:CYC:CMA	2.78	0.46
4:M:3:VAL:CG2	4:M:76:ALA:HB2	2.41	0.46
2:U:56:ALA:O	2:U:57:HIS:C	2.59	0.46
6:X:201:CYC:NB	6:X:201:CYC:HMA2	2.31	0.46
5:Z:366:LEU:O	5:Z:367:GLY:C	2.59	0.46
2:H:102:ALA:O	2:H:103:SER:C	2.58	0.46
2:H:108:ARG:HG3	2:H:108:ARG:HH11	1.80	0.46
3:I:127:TYR:O	3:I:128:ILE:C	2.57	0.46
2:J:141:TYR:O	2:J:142:VAL:C	2.57	0.46
2:Q:26:GLN:O	2:Q:29:ASN:OD1	2.33	0.46
3:R:94:THR:OG1	3:R:95:TYR:N	2.48	0.46
3:T:92:PHE:O	3:T:93:ILE:C	2.56	0.46
2:U:94:SER:O	2:U:95:TYR:C	2.59	0.46
3:a:17:ARG:HG2	3:a:17:ARG:HH11	1.80	0.46
3:a:92:PHE:O	3:a:93:ILE:C	2.56	0.46
2:B:26:GLN:O	2:B:29:ASN:OD1	2.33	0.45
2:D:103:SER:O	2:D:106:GLU:N	2.48	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:127:TYR:O	3:N:128:ILE:C	2.58	0.45
3:P:94:THR:OG1	3:P:95:TYR:N	2.48	0.45
3:R:115:GLU:OE1	3:R:115:GLU:N	2.39	0.45
3:T:94:THR:OG1	3:T:95:TYR:N	2.48	0.45
3:V:94:THR:OG1	3:V:95:TYR:N	2.48	0.45
2:W:85:ASP:O	2:W:86:MET:C	2.59	0.45
3:X:90:LEU:HD12	3:X:90:LEU:HA	1.79	0.45
3:X:127:TYR:O	3:X:128:ILE:C	2.57	0.45
3:a:127:TYR:O	3:a:130:ALA:HB3	2.16	0.45
2:D:56:ALA:O	2:D:57:HIS:C	2.59	0.45
3:E:94:THR:OG1	3:E:95:TYR:N	2.48	0.45
2:J:56:ALA:O	2:J:57:HIS:C	2.59	0.45
3:K:95:TYR:CG	2:L:9:ILE:HG23	2.51	0.45
2:L:153:CYS:O	2:L:154:SER:C	2.60	0.45
3:T:15:GLN:OE1	3:T:17:ARG:CZ	2.64	0.45
3:V:17:ARG:NH2	3:V:23:GLU:OE2	2.46	0.45
3:V:82:CYS:HB2	6:V:201:CYC:C1C	2.46	0.45
2:Y:56:ALA:O	2:Y:57:HIS:C	2.59	0.45
2:Y:153:CYS:O	2:Y:154:SER:C	2.60	0.45
2:B:39:ASP:OD1	6:B:201:CYC:HMB3	2.16	0.45
4:M:223:GLY:O	4:M:224:PHE:HB2	2.15	0.45
2:O:108:ARG:HA	2:O:108:ARG:HD2	1.62	0.45
3:P:145:GLN:O	3:P:146:PRO:C	2.57	0.45
2:Q:94:SER:O	2:Q:95:TYR:C	2.59	0.45
6:W:201:CYC:NC	6:W:201:CYC:HMD2	2.32	0.45
2:Y:14:LEU:O	5:Z:352:PRO:HB3	2.16	0.45
5:Z:399:ILE:O	5:Z:400:PHE:O	2.34	0.45
2:B:56:ALA:O	2:B:57:HIS:C	2.59	0.45
3:C:127:TYR:O	3:C:128:ILE:C	2.57	0.45
3:E:20:ASN:OD1	3:E:22:THR:N	2.49	0.45
2:F:85:ASP:O	2:F:86:MET:C	2.59	0.45
3:I:92:PHE:O	3:I:93:ILE:C	2.57	0.45
4:M:166:THR:O	4:M:169:ASN:HB2	2.17	0.45
3:N:127:TYR:O	3:N:130:ALA:HB3	2.17	0.45
2:W:94:SER:O	2:W:95:TYR:C	2.59	0.45
3:X:94:THR:OG1	3:X:95:TYR:N	2.48	0.45
3:K:24:LEU:O	3:K:25:GLN:C	2.60	0.45
3:K:93:ILE:O	3:K:94:THR:C	2.60	0.45
4:M:31:PRO:O	4:M:32:SER:OG	2.33	0.45
3:R:20:ASN:OD1	3:R:22:THR:N	2.50	0.45
2:S:132:GLN:O	2:S:133:LEU:C	2.56	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:Z:501:GLU:O	5:Z:502:ASN:CB	2.60	0.45
3:C:127:TYR:O	3:C:130:ALA:HB3	2.17	0.45
3:E:127:TYR:O	3:E:130:ALA:HB3	2.16	0.45
2:F:90:LEU:HB2	2:F:134:MET:CE	2.47	0.45
2:L:78:ARG:O	2:L:79:MET:C	2.58	0.45
2:L:94:SER:O	2:L:95:TYR:C	2.59	0.45
2:L:109:CYS:O	2:L:113:LEU:HB2	2.17	0.45
3:T:20:ASN:OD1	3:T:22:THR:N	2.50	0.45
3:V:20:ASN:OD1	3:V:22:THR:N	2.50	0.45
3:V:115:GLU:OE1	3:V:115:GLU:N	2.39	0.45
2:W:102:ALA:O	2:W:103:SER:C	2.59	0.45
2:W:153:CYS:O	2:W:154:SER:C	2.59	0.45
3:K:20:ASN:OD1	3:K:22:THR:N	2.49	0.45
3:K:105:LEU:HD23	3:K:109:ILE:HD12	1.99	0.45
2:O:33:GLU:OE1	2:O:36:LYS:HE2	2.17	0.45
2:Q:103:SER:O	2:Q:106:GLU:N	2.49	0.45
6:Q:202:CYC:OB	6:Q:202:CYC:HBB3	2.17	0.45
3:R:131:LEU:O	3:R:134:ILE:HB	2.17	0.45
2:S:94:SER:O	2:S:95:TYR:C	2.59	0.45
6:S:201:CYC:HMA1	6:S:201:CYC:NB	2.31	0.45
3:T:147:LEU:O	3:T:148:THR:C	2.60	0.45
3:X:20:ASN:OD1	3:X:22:THR:N	2.50	0.45
2:Y:94:SER:O	2:Y:95:TYR:C	2.59	0.45
3:G:127:TYR:O	3:G:130:ALA:HB3	2.17	0.45
2:H:145:PRO:CD	6:H:202:CYC:HMC3	2.46	0.45
2:J:153:CYS:O	2:J:154:SER:C	2.60	0.45
2:Q:108:ARG:NH2	5:Z:517:ALA:HB2	2.31	0.45
2:U:85:ASP:O	2:U:86:MET:C	2.59	0.45
6:X:201:CYC:NB	6:X:201:CYC:C3A	2.78	0.45
2:Y:102:ALA:O	2:Y:103:SER:C	2.59	0.45
3:E:82:CYS:HB2	6:E:201:CYC:NC	2.31	0.45
2:H:82:CYS:HB2	6:H:201:CYC:HMD3	1.98	0.45
3:I:24:LEU:O	3:I:25:GLN:C	2.60	0.45
2:O:153:CYS:O	2:O:154:SER:C	2.60	0.45
2:Q:88:ILE:O	2:Q:89:ILE:C	2.58	0.45
3:a:127:TYR:O	3:a:128:ILE:C	2.57	0.45
2:O:145:PRO:HD2	6:O:201:CYC:HMC3	1.99	0.45
3:P:20:ASN:OD1	3:P:22:THR:N	2.50	0.45
2:Q:102:ALA:O	2:Q:103:SER:C	2.58	0.45
3:T:127:TYR:O	3:T:130:ALA:HB3	2.17	0.45
2:U:108:ARG:HG3	2:U:108:ARG:HH11	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1:MET:HB2	2:B:2:GLN:H	1.67	0.44
3:C:20:ASN:OD1	3:C:22:THR:N	2.50	0.44
2:H:20:SER:OG	2:H:23:GLU:HB2	2.17	0.44
2:H:148:VAL:HG11	6:H:202:CYC:CHD	2.47	0.44
3:I:127:TYR:O	3:I:130:ALA:HB3	2.17	0.44
2:Q:56:ALA:O	2:Q:57:HIS:C	2.59	0.44
3:V:127:TYR:O	3:V:130:ALA:HB3	2.17	0.44
3:X:127:TYR:O	3:X:130:ALA:HB3	2.17	0.44
1:A:49:LEU:HD21	2:J:120:LEU:HD21	1.99	0.44
2:B:153:CYS:O	2:B:154:SER:C	2.60	0.44
2:H:56:ALA:O	2:H:57:HIS:C	2.59	0.44
3:I:77:THR:CG2	3:I:78:ASN:N	2.80	0.44
2:L:85:ASP:O	2:L:86:MET:C	2.60	0.44
4:M:117:THR:CG2	4:M:155:ARG:NH2	2.80	0.44
3:N:20:ASN:OD1	3:N:22:THR:N	2.50	0.44
3:N:77:THR:CG2	3:N:78:ASN:N	2.80	0.44
3:N:131:LEU:O	3:N:134:ILE:HB	2.18	0.44
3:P:131:LEU:O	3:P:134:ILE:HB	2.18	0.44
2:S:85:ASP:O	2:S:86:MET:C	2.60	0.44
2:S:153:CYS:O	2:S:154:SER:C	2.60	0.44
2:U:153:CYS:O	2:U:154:SER:C	2.59	0.44
2:W:56:ALA:O	2:W:57:HIS:C	2.59	0.44
3:C:24:LEU:O	3:C:25:GLN:C	2.60	0.44
3:C:147:LEU:O	3:C:148:THR:C	2.60	0.44
6:G:201:CYC:O1A	6:G:201:CYC:C2A	2.65	0.44
2:L:56:ALA:O	2:L:57:HIS:C	2.59	0.44
2:O:34:SER:O	2:O:35:ASN:C	2.61	0.44
3:P:147:LEU:O	3:P:148:THR:C	2.60	0.44
3:T:47:ASN:O	3:T:48:ALA:C	2.61	0.44
3:X:147:LEU:O	3:X:148:THR:C	2.60	0.44
5:Z:516:GLN:O	5:Z:517:ALA:CB	2.65	0.44
3:a:147:LEU:O	3:a:148:THR:C	2.61	0.44
2:D:78:ARG:O	2:D:79:MET:C	2.58	0.44
2:D:125:ARG:HH22	2:U:14:LEU:CD1	2.30	0.44
2:D:125:ARG:NH2	2:U:14:LEU:HD13	2.32	0.44
2:F:94:SER:O	2:F:95:TYR:C	2.59	0.44
6:G:201:CYC:HMA1	6:G:201:CYC:C1B	2.48	0.44
6:G:201:CYC:NB	6:G:201:CYC:CMA	2.79	0.44
2:H:85:ASP:O	2:H:86:MET:C	2.59	0.44
2:H:153:CYS:O	2:H:154:SER:C	2.60	0.44
3:I:47:ASN:O	3:I:48:ALA:C	2.61	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:Q:34:SER:O	2:Q:35:ASN:C	2.61	0.44
3:V:147:LEU:O	3:V:148:THR:C	2.60	0.44
6:W:201:CYC:CMA	6:W:201:CYC:NB	2.81	0.44
2:Y:85:ASP:OD1	5:Z:404:TYR:OH	2.32	0.44
2:Y:117:TYR:HA	2:Y:122:THR:HG22	1.98	0.44
5:Z:401:GLY:C	5:Z:403:THR:N	2.72	0.44
3:a:93:ILE:O	3:a:94:THR:C	2.60	0.44
2:B:148:VAL:HG11	6:B:201:CYC:CHD	2.47	0.44
2:D:153:CYS:O	2:D:154:SER:C	2.60	0.44
6:F:201:CYC:HHA	6:F:201:CYC:O2D	2.18	0.44
3:G:20:ASN:OD1	3:G:22:THR:N	2.49	0.44
2:H:34:SER:O	2:H:35:ASN:C	2.61	0.44
2:H:87:GLU:O	2:H:88:ILE:C	2.61	0.44
4:M:160:THR:HG21	4:M:164:ARG:HG3	1.99	0.44
3:P:24:LEU:O	3:P:25:GLN:C	2.60	0.44
3:T:19:LEU:O	2:U:45:THR:HG21	2.18	0.44
2:W:34:SER:O	2:W:35:ASN:C	2.61	0.44
3:a:20:ASN:OD1	3:a:22:THR:N	2.49	0.44
2:B:85:ASP:O	2:B:86:MET:C	2.59	0.44
3:C:93:ILE:O	3:C:94:THR:C	2.60	0.44
2:D:64:THR:O	2:D:67:ILE:HG12	2.17	0.44
2:F:153:CYS:O	2:F:154:SER:C	2.59	0.44
6:K:201:CYC:NB	6:K:201:CYC:CMA	2.81	0.44
3:N:47:ASN:O	3:N:48:ALA:C	2.61	0.44
3:T:24:LEU:O	3:T:25:GLN:C	2.61	0.44
3:V:24:LEU:O	3:V:25:GLN:C	2.60	0.44
3:V:93:ILE:O	3:V:94:THR:C	2.60	0.44
3:X:93:ILE:O	3:X:94:THR:C	2.60	0.44
3:a:77:THR:CG2	3:a:78:ASN:N	2.81	0.44
2:D:84:ARG:HD2	4:M:192:GLN:HG3	2.00	0.44
6:L:202:CYC:HHD	6:L:202:CYC:HAC1	1.82	0.44
3:P:127:TYR:O	3:P:130:ALA:HB3	2.17	0.44
6:W:201:CYC:NA	6:W:201:CYC:ND	2.64	0.44
2:Y:34:SER:O	2:Y:35:ASN:C	2.61	0.44
3:C:145:GLN:NE2	6:H:202:CYC:O1A	2.51	0.44
3:I:18:PHE:CE2	2:J:91:ARG:HA	2.52	0.44
3:K:127:TYR:O	3:K:130:ALA:HB3	2.17	0.44
3:N:17:ARG:HG2	3:N:17:ARG:HH11	1.83	0.44
3:T:131:LEU:O	3:T:134:ILE:HB	2.17	0.44
3:C:131:LEU:O	3:C:134:ILE:HB	2.18	0.44
2:D:76:ASN:O	2:D:77:ARG:C	2.58	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:131:LEU:O	3:I:134:ILE:HB	2.18	0.44
3:I:147:LEU:O	3:I:148:THR:C	2.61	0.44
4:M:3:VAL:HG22	4:M:76:ALA:CB	2.41	0.44
4:M:10:ARG:HD3	4:M:10:ARG:HA	1.62	0.44
3:C:17:ARG:NH2	3:C:23:GLU:OE2	2.46	0.43
3:E:93:ILE:O	3:E:94:THR:C	2.60	0.43
2:F:104:VAL:HG13	2:F:105:LEU:N	2.33	0.43
3:K:147:LEU:O	3:K:148:THR:C	2.61	0.43
4:M:15:PHE:HD1	4:M:71:PRO:HA	1.83	0.43
6:N:201:CYC:NC	6:N:201:CYC:CMD	2.81	0.43
2:O:94:SER:O	2:O:95:TYR:C	2.59	0.43
2:Q:153:CYS:O	2:Q:154:SER:C	2.60	0.43
2:U:20:SER:OG	2:U:23:GLU:HB2	2.17	0.43
3:V:77:THR:CG2	3:V:78:ASN:N	2.80	0.43
2:W:1:MET:HE3	2:W:1:MET:HB2	1.91	0.43
2:B:34:SER:O	2:B:35:ASN:C	2.61	0.43
2:B:87:GLU:O	2:B:88:ILE:C	2.61	0.43
3:E:131:LEU:O	3:E:134:ILE:HB	2.18	0.43
3:E:147:LEU:O	3:E:148:THR:C	2.60	0.43
6:F:202:CYC:NB	6:F:202:CYC:CMA	2.59	0.43
3:G:125:SER:O	3:G:126:TRP:C	2.61	0.43
3:I:125:SER:O	3:I:126:TRP:C	2.61	0.43
2:J:94:SER:O	2:J:95:TYR:C	2.59	0.43
2:S:102:ALA:O	2:S:103:SER:C	2.61	0.43
3:X:24:LEU:O	3:X:25:GLN:C	2.60	0.43
3:X:157:CYS:O	3:X:158:ILE:C	2.62	0.43
2:Y:117:TYR:HD1	2:Y:117:TYR:HA	1.72	0.43
2:B:33:GLU:OE1	2:B:36:LYS:HE2	2.19	0.43
6:B:201:CYC:HHD	6:B:201:CYC:HAC1	1.88	0.43
3:C:17:ARG:NH2	3:G:2:LYS:NZ	2.66	0.43
6:D:201:CYC:NB	6:D:201:CYC:CMA	2.82	0.43
3:N:24:LEU:O	3:N:25:GLN:C	2.61	0.43
2:O:85:ASP:O	2:O:86:MET:C	2.58	0.43
2:S:104:VAL:HG13	2:S:105:LEU:N	2.32	0.43
6:Y:202:CYC:NC	6:Y:202:CYC:CMD	2.65	0.43
2:F:148:VAL:HG11	6:F:201:CYC:C4C	2.47	0.43
3:G:24:LEU:O	3:G:25:GLN:C	2.61	0.43
3:G:131:LEU:O	3:G:134:ILE:HB	2.18	0.43
3:I:93:ILE:O	3:I:94:THR:C	2.60	0.43
4:M:179:TYR:O	4:M:180:ASN:HB2	2.18	0.43
2:O:1:MET:HB2	2:O:2:GLN:H	1.68	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:Q:161:ALA:O	2:Q:162:THR:C	2.62	0.43
2:S:34:SER:O	2:S:35:ASN:C	2.61	0.43
3:T:93:ILE:O	3:T:94:THR:C	2.60	0.43
3:a:47:ASN:O	3:a:48:ALA:C	2.61	0.43
3:C:157:CYS:O	3:C:158:ILE:C	2.62	0.43
2:D:77:ARG:HG3	2:D:77:ARG:HH11	1.83	0.43
3:E:47:ASN:O	3:E:48:ALA:C	2.61	0.43
2:J:1:MET:HE3	2:J:1:MET:HB2	1.94	0.43
2:J:34:SER:O	2:J:35:ASN:C	2.61	0.43
3:K:131:LEU:O	3:K:134:ILE:HB	2.18	0.43
3:P:47:ASN:O	3:P:48:ALA:C	2.61	0.43
2:Q:85:ASP:O	2:Q:86:MET:C	2.61	0.43
2:S:161:ALA:O	2:S:162:THR:C	2.62	0.43
2:U:34:SER:O	2:U:35:ASN:C	2.61	0.43
2:B:102:ALA:O	2:B:105:LEU:HB3	2.18	0.43
2:D:161:ALA:O	2:D:162:THR:C	2.61	0.43
6:H:201:CYC:O2A	6:H:201:CYC:CHA	2.66	0.43
5:Z:450:ARG:HA	5:Z:453:GLU:HG2	2.01	0.43
3:a:131:LEU:O	3:a:134:ILE:HB	2.18	0.43
2:B:161:ALA:O	2:B:162:THR:C	2.62	0.43
3:C:38:MET:HE3	3:C:38:MET:HB3	1.94	0.43
2:H:143:ASN:C	2:H:145:PRO:HD3	2.44	0.43
2:H:161:ALA:O	2:H:162:THR:C	2.62	0.43
4:M:175:GLY:HA3	4:M:221:TYR:HA	2.01	0.43
3:N:30:ARG:O	3:N:31:PHE:HB2	2.19	0.43
3:N:147:LEU:O	3:N:148:THR:C	2.60	0.43
2:Q:93:VAL:O	2:Q:94:SER:C	2.62	0.43
2:W:102:ALA:O	2:W:105:LEU:HB3	2.19	0.43
3:X:131:LEU:O	3:X:134:ILE:HB	2.18	0.43
2:Y:92:TYR:CG	2:Y:109:CYS:HB2	2.54	0.43
3:a:157:CYS:O	3:a:158:ILE:C	2.62	0.43
2:D:92:TYR:HE1	2:D:108:ARG:HG2	1.79	0.43
3:G:93:ILE:O	3:G:94:THR:C	2.60	0.43
3:K:47:ASN:O	3:K:48:ALA:C	2.61	0.43
3:K:157:CYS:O	3:K:158:ILE:C	2.62	0.43
4:M:190:ARG:HG3	4:M:194:PHE:CD2	2.48	0.43
3:R:90:LEU:HD12	3:R:90:LEU:HA	1.79	0.43
2:U:102:ALA:O	2:U:105:LEU:HB3	2.19	0.43
6:U:202:CYC:HHD	6:U:202:CYC:HAC1	1.84	0.43
3:C:10:ALA:HB1	4:M:158:PHE:CE2	2.54	0.43
3:C:47:ASN:O	3:C:48:ALA:C	2.61	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:125:SER:O	3:C:126:TRP:C	2.61	0.43
2:D:149:THR:HG21	6:D:201:CYC:O2A	2.19	0.43
3:E:55:ALA:O	3:E:58:GLU:HB3	2.19	0.43
3:G:47:ASN:O	3:G:48:ALA:C	2.61	0.43
2:H:102:ALA:O	2:H:105:LEU:HB3	2.19	0.43
2:J:148:VAL:HG11	6:J:202:CYC:C4C	2.49	0.43
2:L:161:ALA:O	2:L:162:THR:C	2.61	0.43
3:P:125:SER:O	3:P:126:TRP:C	2.61	0.43
2:S:90:LEU:HB2	2:S:134:MET:CE	2.48	0.43
3:T:1:MET:HE3	3:T:1:MET:HB2	1.92	0.43
1:A:21:LEU:HD23	1:A:43:TYR:CD1	2.54	0.43
2:D:102:ALA:O	2:D:105:LEU:HB3	2.19	0.43
3:E:128:ILE:O	3:E:129:GLU:C	2.62	0.43
3:I:55:ALA:O	3:I:58:GLU:HB3	2.19	0.43
2:J:143:ASN:C	2:J:145:PRO:HD3	2.44	0.43
3:K:125:SER:O	3:K:126:TRP:C	2.61	0.43
2:L:14:LEU:HB3	2:W:125:ARG:HH22	1.83	0.43
2:L:115:GLU:OE1	2:L:115:GLU:N	2.46	0.43
3:R:47:ASN:O	3:R:48:ALA:C	2.61	0.43
6:T:201:CYC:NC	6:T:201:CYC:CMD	2.82	0.43
2:U:161:ALA:O	2:U:162:THR:C	2.62	0.43
3:X:47:ASN:O	3:X:48:ALA:C	2.61	0.43
5:Z:519:ARG:O	5:Z:520:GLY:C	2.62	0.43
2:D:85:ASP:O	2:D:86:MET:C	2.61	0.42
2:F:34:SER:O	2:F:35:ASN:C	2.61	0.42
3:G:147:LEU:O	3:G:148:THR:C	2.60	0.42
3:K:91:ARG:HA	2:L:18:PHE:CE1	2.54	0.42
2:L:93:VAL:O	2:L:94:SER:C	2.62	0.42
2:S:143:ASN:C	2:S:145:PRO:HD3	2.44	0.42
3:V:90:LEU:HD12	3:V:90:LEU:HA	1.80	0.42
2:Y:102:ALA:O	2:Y:105:LEU:HB3	2.19	0.42
3:E:24:LEU:O	3:E:25:GLN:C	2.61	0.42
2:F:161:ALA:O	2:F:162:THR:C	2.62	0.42
6:F:202:CYC:HAB2	4:M:246:ALA:HB2	2.00	0.42
3:G:128:ILE:O	3:G:129:GLU:C	2.62	0.42
3:I:90:LEU:HD12	3:I:90:LEU:HA	1.80	0.42
2:J:102:ALA:O	2:J:105:LEU:HB3	2.18	0.42
3:K:90:LEU:HD12	3:K:90:LEU:HA	1.78	0.42
2:L:144:SER:N	2:L:145:PRO:CD	2.82	0.42
4:M:160:THR:OG1	4:M:161:SER:N	2.51	0.42
2:O:34:SER:OG	2:O:35:ASN:N	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:O:56:ALA:O	2:O:57:HIS:C	2.59	0.42
2:O:87:GLU:O	2:O:88:ILE:C	2.61	0.42
3:P:94:THR:O	3:P:95:TYR:C	2.62	0.42
3:R:147:LEU:O	3:R:148:THR:C	2.60	0.42
3:V:57:GLN:O	3:V:58:GLU:C	2.63	0.42
2:W:93:VAL:O	2:W:94:SER:C	2.62	0.42
2:Y:144:SER:N	2:Y:145:PRO:CD	2.82	0.42
2:F:87:GLU:O	2:F:88:ILE:C	2.61	0.42
2:H:22:GLN:NE2	2:H:26:GLN:OE1	2.52	0.42
3:I:17:ARG:NH2	3:I:23:GLU:OE2	2.45	0.42
2:O:154:SER:OG	2:O:155:ALA:N	2.53	0.42
3:V:47:ASN:O	3:V:48:ALA:C	2.61	0.42
2:W:87:GLU:O	2:W:88:ILE:C	2.62	0.42
3:X:125:SER:O	3:X:126:TRP:C	2.61	0.42
2:Y:78:ARG:CD	6:Y:202:CYC:O2D	2.67	0.42
5:Z:517:ALA:C	5:Z:518:ALA:O	2.57	0.42
2:B:154:SER:OG	2:B:155:ALA:N	2.53	0.42
2:D:34:SER:OG	2:D:35:ASN:N	2.52	0.42
2:J:161:ALA:O	2:J:162:THR:C	2.62	0.42
6:J:202:CYC:CMA	6:J:202:CYC:HB	2.32	0.42
4:M:160:THR:OG1	4:M:164:ARG:HG2	2.19	0.42
6:O:201:CYC:HHD	6:O:201:CYC:HAC1	1.72	0.42
6:Q:202:CYC:HMD1	6:Q:202:CYC:C4C	2.47	0.42
3:R:55:ALA:O	3:R:58:GLU:HB3	2.19	0.42
2:U:93:VAL:O	2:U:94:SER:C	2.62	0.42
3:V:131:LEU:O	3:V:134:ILE:HB	2.18	0.42
2:Y:93:VAL:O	2:Y:94:SER:C	2.62	0.42
5:Z:402:ASN:CG	5:Z:402:ASN:O	2.61	0.42
6:D:202:CYC:HMD1	6:D:202:CYC:C1C	2.50	0.42
3:E:103:GLY:O	3:E:104:PRO:C	2.63	0.42
6:F:201:CYC:NB	6:F:201:CYC:HMA1	2.33	0.42
2:L:154:SER:OG	2:L:155:ALA:N	2.53	0.42
3:P:157:CYS:O	3:P:158:ILE:C	2.62	0.42
6:Q:201:CYC:CMA	6:Q:201:CYC:HB	2.33	0.42
6:Q:201:CYC:HBD2	6:Q:201:CYC:HMD1	2.00	0.42
2:U:22:GLN:NE2	2:U:26:GLN:OE1	2.52	0.42
6:U:202:CYC:HMA2	6:U:202:CYC:NB	2.29	0.42
2:Y:143:ASN:C	2:Y:145:PRO:HD3	2.44	0.42
2:Y:161:ALA:O	2:Y:162:THR:C	2.61	0.42
5:Z:456:PHE:O	5:Z:457:LYS:CB	2.67	0.42
3:a:57:GLN:O	3:a:58:GLU:C	2.63	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:a:201:CYC:NC	6:a:201:CYC:CMD	2.81	0.42
2:D:34:SER:O	2:D:35:ASN:C	2.61	0.42
2:F:154:SER:OG	2:F:155:ALA:N	2.53	0.42
3:I:128:ILE:O	3:I:129:GLU:C	2.62	0.42
2:J:154:SER:OG	2:J:155:ALA:N	2.53	0.42
2:L:82:CYS:HB2	6:L:201:CYC:HMD2	2.01	0.42
2:L:143:ASN:C	2:L:145:PRO:HD3	2.44	0.42
3:N:125:SER:O	3:N:126:TRP:C	2.61	0.42
2:O:161:ALA:O	2:O:162:THR:C	2.62	0.42
6:O:202:CYC:HMA2	5:Z:420:ASN:HD21	1.83	0.42
2:Q:34:SER:OG	2:Q:35:ASN:N	2.53	0.42
3:R:19:LEU:O	2:S:45:THR:HG21	2.20	0.42
3:T:125:SER:O	3:T:126:TRP:C	2.61	0.42
3:V:94:THR:O	3:V:95:TYR:C	2.63	0.42
3:a:145:GLN:N	3:a:146:PRO:CD	2.83	0.42
3:C:94:THR:O	3:C:95:TYR:C	2.62	0.42
2:H:34:SER:OG	2:H:35:ASN:N	2.53	0.42
2:H:154:SER:OG	2:H:155:ALA:N	2.53	0.42
3:K:55:ALA:O	3:K:58:GLU:HB3	2.19	0.42
3:N:94:THR:O	3:N:95:TYR:C	2.63	0.42
3:P:128:ILE:O	3:P:129:GLU:C	2.63	0.42
2:Q:154:SER:OG	2:Q:155:ALA:N	2.52	0.42
2:U:87:GLU:O	2:U:88:ILE:C	2.61	0.42
3:X:57:GLN:O	3:X:58:GLU:C	2.63	0.42
3:X:103:GLY:O	3:X:104:PRO:C	2.63	0.42
2:D:154:SER:OG	2:D:155:ALA:N	2.52	0.42
6:D:201:CYC:CGA	6:D:201:CYC:CHA	2.97	0.42
2:F:103:SER:O	2:F:106:GLU:N	2.53	0.42
2:H:93:VAL:O	2:H:94:SER:C	2.62	0.42
2:J:117:TYR:HD1	2:J:117:TYR:HA	1.75	0.42
2:L:104:VAL:HG13	2:L:105:LEU:N	2.35	0.42
4:M:31:PRO:O	4:M:32:SER:CB	2.67	0.42
3:N:157:CYS:O	3:N:158:ILE:C	2.62	0.42
2:O:102:ALA:O	2:O:103:SER:C	2.63	0.42
6:Q:201:CYC:HB	6:Q:201:CYC:HMA2	1.85	0.42
3:T:103:GLY:O	3:T:104:PRO:C	2.63	0.42
6:Y:202:CYC:HMD1	6:Y:202:CYC:C1C	2.46	0.42
5:Z:540:ILE:O	5:Z:541:GLY:C	2.62	0.42
3:C:55:ALA:O	3:C:58:GLU:HB3	2.20	0.42
2:F:143:ASN:C	2:F:145:PRO:HD3	2.44	0.42
3:K:94:THR:O	3:K:95:TYR:C	2.63	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:145:GLN:N	3:N:146:PRO:CD	2.83	0.42
2:S:34:SER:OG	2:S:35:ASN:N	2.53	0.42
2:W:144:SER:N	2:W:145:PRO:CD	2.82	0.42
3:X:38:MET:HE3	3:X:38:MET:HB3	1.94	0.42
5:Z:379:LEU:HD12	5:Z:379:LEU:HA	1.88	0.42
3:C:103:GLY:O	3:C:104:PRO:C	2.63	0.42
3:C:145:GLN:N	3:C:146:PRO:CD	2.83	0.42
2:D:87:GLU:O	2:D:88:ILE:C	2.62	0.42
3:E:1:MET:HE3	3:E:1:MET:HB2	1.94	0.42
3:E:38:MET:HE3	3:E:38:MET:HB3	1.88	0.42
4:M:115:GLY:C	4:M:117:THR:N	2.78	0.42
4:M:264:LYS:HA	4:M:264:LYS:HD2	1.47	0.42
2:O:143:ASN:C	2:O:145:PRO:HD3	2.45	0.42
6:R:201:CYC:NB	6:R:201:CYC:HMA2	2.35	0.42
3:T:128:ILE:O	3:T:129:GLU:C	2.62	0.42
2:U:143:ASN:C	2:U:145:PRO:HD3	2.44	0.42
3:a:94:THR:O	3:a:95:TYR:C	2.63	0.42
3:a:125:SER:O	3:a:126:TRP:C	2.61	0.42
3:C:63:PHE:O	3:C:64:PRO:C	2.63	0.41
3:C:128:ILE:O	3:C:129:GLU:C	2.62	0.41
3:I:157:CYS:O	3:I:158:ILE:C	2.62	0.41
6:I:201:CYC:HHD	6:I:201:CYC:HAC1	1.94	0.41
3:K:91:ARG:O	3:K:94:THR:OG1	2.30	0.41
3:K:128:ILE:O	3:K:129:GLU:C	2.62	0.41
2:L:117:TYR:CB	2:L:122:THR:CG2	2.98	0.41
4:M:210:ILE:HA	4:M:214:GLY:HA2	2.02	0.41
3:P:63:PHE:O	3:P:64:PRO:C	2.63	0.41
3:X:55:ALA:O	3:X:58:GLU:HB3	2.21	0.41
2:Y:145:PRO:CD	6:Y:201:CYC:HMC3	2.49	0.41
3:a:55:ALA:O	3:a:58:GLU:HB3	2.20	0.41
3:G:55:ALA:O	3:G:58:GLU:HB3	2.20	0.41
3:G:57:GLN:O	3:G:58:GLU:C	2.63	0.41
3:G:103:GLY:O	3:G:104:PRO:C	2.63	0.41
2:H:54:ASP:O	2:H:55:ALA:C	2.64	0.41
2:L:34:SER:O	2:L:35:ASN:C	2.61	0.41
2:L:117:TYR:O	2:L:122:THR:HG22	2.20	0.41
3:R:93:ILE:O	3:R:94:THR:C	2.60	0.41
3:R:125:SER:O	3:R:126:TRP:C	2.61	0.41
3:T:94:THR:O	3:T:95:TYR:C	2.63	0.41
3:V:125:SER:O	3:V:126:TRP:C	2.61	0.41
3:V:128:ILE:O	3:V:129:GLU:C	2.62	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:W:161:ALA:O	2:W:162:THR:C	2.62	0.41
2:Y:78:ARG:O	2:Y:79:MET:C	2.61	0.41
3:a:24:LEU:O	3:a:25:GLN:C	2.61	0.41
2:B:93:VAL:O	2:B:94:SER:C	2.62	0.41
2:D:92:TYR:CG	2:D:109:CYS:HB2	2.55	0.41
3:E:94:THR:O	3:E:95:TYR:C	2.63	0.41
2:F:165:ASP:O	2:F:166:LYS:C	2.64	0.41
3:G:145:GLN:N	3:G:146:PRO:CD	2.83	0.41
2:O:165:ASP:O	2:O:166:LYS:C	2.63	0.41
3:P:93:ILE:O	3:P:94:THR:C	2.60	0.41
3:P:145:GLN:N	3:P:146:PRO:CD	2.83	0.41
2:S:93:VAL:O	2:S:94:SER:C	2.62	0.41
3:T:90:LEU:HD12	3:T:90:LEU:HA	1.79	0.41
3:V:145:GLN:N	3:V:146:PRO:CD	2.83	0.41
2:Y:78:ARG:HD3	6:Y:202:CYC:O2D	2.18	0.41
2:D:165:ASP:O	2:D:166:LYS:C	2.63	0.41
3:E:57:GLN:O	3:E:58:GLU:C	2.63	0.41
2:J:87:GLU:O	2:J:88:ILE:C	2.61	0.41
4:M:43:TYR:CE2	4:M:45:VAL:HG13	2.55	0.41
3:N:55:ALA:O	3:N:58:GLU:HB3	2.20	0.41
2:O:158:ASN:O	2:O:161:ALA:HB3	2.21	0.41
2:Q:35:ASN:HB3	6:Q:201:CYC:C1A	2.50	0.41
3:R:24:LEU:O	3:R:25:GLN:C	2.61	0.41
3:R:57:GLN:O	3:R:58:GLU:C	2.62	0.41
3:R:145:GLN:N	3:R:146:PRO:CD	2.83	0.41
2:S:148:VAL:HG11	6:S:201:CYC:C4C	2.51	0.41
2:U:34:SER:OG	2:U:35:ASN:N	2.53	0.41
2:U:158:ASN:O	2:U:161:ALA:HB3	2.21	0.41
3:V:48:ALA:O	3:V:49:ASP:C	2.64	0.41
3:V:63:PHE:O	3:V:64:PRO:C	2.63	0.41
2:W:117:TYR:HD1	2:W:117:TYR:HA	1.75	0.41
6:W:202:CYC:HMA1	6:W:202:CYC:C1B	2.49	0.41
3:X:94:THR:O	3:X:95:TYR:C	2.63	0.41
2:D:143:ASN:C	2:D:145:PRO:HD3	2.45	0.41
2:L:34:SER:OG	2:L:35:ASN:N	2.53	0.41
2:L:35:ASN:HB3	6:L:202:CYC:C1A	2.51	0.41
2:L:158:ASN:O	2:L:161:ALA:HB3	2.21	0.41
6:N:201:CYC:NC	6:N:201:CYC:HMD1	2.35	0.41
3:P:90:LEU:HD12	3:P:90:LEU:HA	1.80	0.41
2:Q:102:ALA:O	2:Q:105:LEU:HB3	2.19	0.41
2:S:154:SER:OG	2:S:155:ALA:N	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:U:154:SER:OG	2:U:155:ALA:N	2.53	0.41
2:W:165:ASP:O	2:W:166:LYS:C	2.63	0.41
3:X:58:GLU:O	3:X:59:VAL:C	2.64	0.41
3:X:84:ARG:HD3	5:Z:349:TYR:HB3	2.01	0.41
3:X:145:GLN:N	3:X:146:PRO:CD	2.83	0.41
2:Y:34:SER:OG	2:Y:35:ASN:N	2.53	0.41
5:Z:399:ILE:HD13	5:Z:399:ILE:HA	1.93	0.41
2:D:148:VAL:HG11	6:D:201:CYC:CHD	2.51	0.41
2:H:5:PHE:O	2:H:6:THR:C	2.64	0.41
3:K:57:GLN:O	3:K:58:GLU:C	2.63	0.41
3:K:145:GLN:N	3:K:146:PRO:CD	2.83	0.41
3:N:63:PHE:O	3:N:64:PRO:C	2.63	0.41
3:N:128:ILE:O	3:N:129:GLU:C	2.62	0.41
3:T:57:GLN:O	3:T:58:GLU:C	2.63	0.41
3:T:58:GLU:O	3:T:59:VAL:C	2.64	0.41
3:V:55:ALA:O	3:V:58:GLU:HB3	2.19	0.41
3:V:157:CYS:O	3:V:158:ILE:C	2.62	0.41
2:W:143:ASN:C	2:W:145:PRO:HD3	2.45	0.41
3:X:105:LEU:HD23	3:X:109:ILE:HD12	2.02	0.41
1:A:21:LEU:HD12	1:A:25:LEU:HB2	1.99	0.41
2:B:144:SER:N	2:B:145:PRO:CD	2.82	0.41
3:G:1:MET:HE3	3:G:1:MET:HB2	1.93	0.41
3:G:94:THR:O	3:G:95:TYR:C	2.63	0.41
3:I:103:GLY:O	3:I:104:PRO:C	2.63	0.41
2:J:82:CYS:HA	6:J:201:CYC:CHD	2.50	0.41
2:Q:58:LYS:HE3	2:Q:133:LEU:HD22	2.03	0.41
2:Q:165:ASP:O	2:Q:166:LYS:C	2.63	0.41
3:R:94:THR:O	3:R:95:TYR:C	2.62	0.41
2:S:108:ARG:NH2	5:Z:448:ASN:HD21	2.11	0.41
3:T:55:ALA:O	3:T:58:GLU:HB3	2.20	0.41
3:T:157:CYS:O	3:T:158:ILE:C	2.62	0.41
3:V:2:LYS:HG3	3:V:7:GLU:OE2	2.21	0.41
5:Z:379:LEU:HD13	5:Z:391:VAL:HG21	2.02	0.41
3:a:103:GLY:O	3:a:104:PRO:C	2.63	0.41
2:B:35:ASN:HB3	6:B:201:CYC:C1A	2.50	0.41
2:B:165:ASP:O	2:B:166:LYS:C	2.64	0.41
3:C:57:GLN:O	3:C:58:GLU:C	2.63	0.41
2:D:144:SER:N	2:D:145:PRO:CD	2.82	0.41
3:G:63:PHE:O	3:G:64:PRO:C	2.63	0.41
6:I:201:CYC:CMD	6:I:201:CYC:NC	2.78	0.41
4:M:188:LEU:C	4:M:188:LEU:HD23	2.46	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:P:201:CYC:NB	6:P:201:CYC:C3A	2.82	0.41
2:Q:143:ASN:C	2:Q:145:PRO:HD3	2.45	0.41
2:S:158:ASN:O	2:S:161:ALA:HB3	2.21	0.41
2:Y:117:TYR:CB	2:Y:122:THR:CG2	2.99	0.41
5:Z:381:PRO:O	5:Z:382:ASN:C	2.64	0.41
5:Z:461:GLY:HA3	5:Z:508:ARG:H	1.85	0.41
5:Z:499:PHE:HB3	5:Z:503:THR:HB	2.03	0.41
3:a:63:PHE:O	3:a:64:PRO:C	2.64	0.41
2:B:158:ASN:O	2:B:161:ALA:HB3	2.21	0.41
2:D:84:ARG:HG3	4:M:192:GLN:HG3	2.02	0.41
2:D:158:ASN:O	2:D:161:ALA:HB3	2.21	0.41
3:E:58:GLU:O	3:E:59:VAL:C	2.64	0.41
3:E:63:PHE:O	3:E:64:PRO:C	2.63	0.41
3:E:83:ALA:O	3:E:84:ARG:C	2.64	0.41
3:E:157:CYS:O	3:E:158:ILE:C	2.62	0.41
2:F:93:VAL:O	2:F:94:SER:C	2.62	0.41
2:F:158:ASN:O	2:F:161:ALA:HB3	2.21	0.41
3:G:48:ALA:O	3:G:49:ASP:C	2.64	0.41
3:G:58:GLU:O	3:G:59:VAL:C	2.64	0.41
2:H:158:ASN:O	2:H:161:ALA:HB3	2.21	0.41
3:I:57:GLN:O	3:I:58:GLU:C	2.63	0.41
3:I:63:PHE:O	3:I:64:PRO:C	2.63	0.41
3:I:83:ALA:O	3:I:84:ARG:C	2.64	0.41
2:J:93:VAL:O	2:J:94:SER:C	2.62	0.41
6:J:202:CYC:O1A	6:J:202:CYC:C2A	2.68	0.41
3:K:85:ASP:O	3:K:88:HIS:HB2	2.21	0.41
3:K:103:GLY:O	3:K:104:PRO:C	2.63	0.41
2:L:54:ASP:O	2:L:55:ALA:C	2.64	0.41
4:M:69:ILE:HD13	2:U:116:THR:OG1	2.21	0.41
3:N:57:GLN:O	3:N:58:GLU:C	2.63	0.41
3:P:55:ALA:O	3:P:58:GLU:HB3	2.20	0.41
3:P:57:GLN:O	3:P:58:GLU:C	2.63	0.41
3:P:108:TYR:CD1	2:S:75:PRO:HG3	2.55	0.41
2:Q:54:ASP:O	2:Q:55:ALA:C	2.64	0.41
2:Q:87:GLU:O	2:Q:88:ILE:C	2.62	0.41
6:Q:202:CYC:HMD1	6:Q:202:CYC:HC	1.81	0.41
3:R:103:GLY:O	3:R:104:PRO:C	2.63	0.41
3:R:128:ILE:O	3:R:129:GLU:C	2.62	0.41
3:R:157:CYS:O	3:R:158:ILE:C	2.62	0.41
3:T:81:LYS:O	3:T:82:CYS:C	2.63	0.41
3:T:149:GLU:O	3:T:150:ALA:C	2.64	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:U:122:THR:HA	2:U:123:PRO:HD3	1.92	0.41
6:U:201:CYC:CMD	6:U:201:CYC:NC	2.84	0.41
3:V:83:ALA:O	3:V:84:ARG:C	2.64	0.41
2:W:90:LEU:O	2:W:91:ARG:C	2.64	0.41
2:Y:5:PHE:O	2:Y:6:THR:C	2.64	0.41
2:Y:154:SER:OG	2:Y:155:ALA:N	2.53	0.41
3:a:48:ALA:O	3:a:49:ASP:C	2.64	0.41
3:E:48:ALA:O	3:E:49:ASP:C	2.64	0.41
3:G:83:ALA:O	3:G:84:ARG:C	2.64	0.41
3:G:131:LEU:O	3:G:132:LYS:C	2.64	0.41
6:H:202:CYC:HB	6:H:202:CYC:HMA2	1.86	0.41
2:J:165:ASP:O	2:J:166:LYS:C	2.64	0.41
3:K:48:ALA:O	3:K:49:ASP:C	2.64	0.41
3:K:149:GLU:O	3:K:150:ALA:C	2.64	0.41
2:O:103:SER:O	2:O:104:VAL:C	2.63	0.41
3:P:103:GLY:O	3:P:104:PRO:C	2.63	0.41
3:R:63:PHE:O	3:R:64:PRO:C	2.63	0.41
3:T:63:PHE:O	3:T:64:PRO:C	2.64	0.41
3:T:145:GLN:N	3:T:146:PRO:CD	2.83	0.41
3:X:48:ALA:O	3:X:49:ASP:C	2.64	0.41
3:X:128:ILE:O	3:X:129:GLU:C	2.62	0.41
3:X:149:GLU:O	3:X:150:ALA:C	2.64	0.41
2:Y:158:ASN:O	2:Y:161:ALA:HB3	2.21	0.41
5:Z:499:PHE:O	5:Z:500:GLY:C	2.64	0.41
3:a:83:ALA:O	3:a:84:ARG:C	2.64	0.41
1:A:47:VAL:HG12	1:A:48:SER:O	2.21	0.40
2:B:34:SER:OG	2:B:35:ASN:N	2.53	0.40
2:B:143:ASN:C	2:B:145:PRO:HD3	2.45	0.40
3:C:1:MET:SD	2:D:6:THR:HG23	2.61	0.40
2:F:34:SER:OG	2:F:35:ASN:N	2.53	0.40
3:K:81:LYS:O	3:K:82:CYS:C	2.64	0.40
2:L:165:ASP:O	2:L:166:LYS:C	2.64	0.40
3:N:85:ASP:O	3:N:88:HIS:HB2	2.21	0.40
3:N:103:GLY:O	3:N:104:PRO:C	2.63	0.40
3:P:1:MET:HE3	3:P:1:MET:HB2	1.97	0.40
3:P:58:GLU:O	3:P:59:VAL:C	2.64	0.40
2:Q:145:PRO:HD2	6:Q:201:CYC:CMC	2.50	0.40
2:Q:158:ASN:O	2:Q:161:ALA:HB3	2.21	0.40
2:S:102:ALA:O	2:S:105:LEU:HB3	2.21	0.40
3:T:83:ALA:O	3:T:84:ARG:C	2.64	0.40
3:V:58:GLU:O	3:V:59:VAL:C	2.64	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:V:85:ASP:O	3:V:88:HIS:HB2	2.22	0.40
3:V:149:GLU:O	3:V:150:ALA:C	2.64	0.40
2:W:154:SER:OG	2:W:155:ALA:N	2.53	0.40
6:X:201:CYC:NC	6:X:201:CYC:HMD1	2.36	0.40
6:Y:201:CYC:HHD	6:Y:201:CYC:HAC1	1.91	0.40
3:a:58:GLU:O	3:a:59:VAL:C	2.64	0.40
2:B:87:GLU:O	2:B:90:LEU:HB3	2.21	0.40
3:C:83:ALA:O	3:C:84:ARG:C	2.64	0.40
3:E:131:LEU:O	3:E:132:LYS:C	2.64	0.40
3:E:145:GLN:N	3:E:146:PRO:CD	2.83	0.40
2:J:87:GLU:O	2:J:90:LEU:HB3	2.21	0.40
6:K:201:CYC:HC	6:K:201:CYC:CMD	2.35	0.40
4:M:157:PHE:HB2	4:M:165:PHE:CD1	2.55	0.40
4:M:251:ASN:OD1	4:M:251:ASN:N	2.52	0.40
3:N:58:GLU:O	3:N:59:VAL:C	2.64	0.40
3:N:90:LEU:HD12	3:N:90:LEU:HA	1.80	0.40
3:P:149:GLU:O	3:P:150:ALA:C	2.64	0.40
2:U:87:GLU:O	2:U:90:LEU:HB3	2.21	0.40
2:W:82:CYS:HA	6:W:201:CYC:CHD	2.52	0.40
2:Y:54:ASP:O	2:Y:55:ALA:C	2.64	0.40
3:a:85:ASP:O	3:a:88:HIS:HB2	2.21	0.40
3:a:128:ILE:O	3:a:129:GLU:C	2.62	0.40
3:C:1:MET:HE3	3:C:1:MET:HB2	1.96	0.40
2:D:84:ARG:NH1	4:M:188:LEU:HD22	2.36	0.40
3:E:81:LYS:O	3:E:82:CYS:C	2.64	0.40
2:F:5:PHE:O	2:F:6:THR:C	2.65	0.40
2:F:144:SER:N	2:F:145:PRO:CD	2.82	0.40
3:G:81:LYS:O	3:G:82:CYS:C	2.64	0.40
2:H:86:MET:HG3	6:H:201:CYC:HBC1	2.03	0.40
3:I:81:LYS:O	3:I:82:CYS:C	2.64	0.40
3:I:145:GLN:N	3:I:146:PRO:CD	2.83	0.40
2:J:158:ASN:O	2:J:161:ALA:HB3	2.21	0.40
6:J:202:CYC:HMA1	6:J:202:CYC:C1B	2.51	0.40
2:L:145:PRO:HD2	6:L:202:CYC:HMC3	2.03	0.40
4:M:206:SER:O	4:M:210:ILE:HG12	2.21	0.40
3:N:81:LYS:O	3:N:82:CYS:C	2.64	0.40
3:R:83:ALA:O	3:R:84:ARG:C	2.64	0.40
2:S:87:GLU:O	2:S:88:ILE:C	2.62	0.40
2:S:87:GLU:O	2:S:90:LEU:HB3	2.22	0.40
2:S:103:SER:O	2:S:106:GLU:N	2.54	0.40
2:U:54:ASP:O	2:U:55:ALA:C	2.64	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:U:165:ASP:O	2:U:166:LYS:C	2.63	0.40
2:B:18:PHE:CE2	3:a:91:ARG:HA	2.56	0.40
2:D:82:CYS:HA	6:D:202:CYC:HAC1	1.91	0.40
3:E:125:SER:O	3:E:126:TRP:C	2.61	0.40
3:E:149:GLU:O	3:E:150:ALA:C	2.65	0.40
3:G:157:CYS:O	3:G:158:ILE:C	2.62	0.40
2:H:87:GLU:O	2:H:90:LEU:HB3	2.21	0.40
3:I:94:THR:O	3:I:95:TYR:C	2.63	0.40
2:L:122:THR:HA	2:L:123:PRO:HD3	1.93	0.40
4:M:9:GLN:HA	2:O:108:ARG:HE	1.86	0.40
2:S:5:PHE:O	2:S:6:THR:C	2.64	0.40
2:U:144:SER:N	2:U:145:PRO:CD	2.82	0.40
2:Y:139:ILE:O	2:Y:140:GLY:C	2.65	0.40
2:D:5:PHE:O	2:D:6:THR:C	2.64	0.40
3:G:114:ARG:HD2	3:G:114:ARG:H	1.87	0.40
2:H:38:LEU:HD13	6:H:202:CYC:C4B	2.52	0.40
2:L:5:PHE:O	2:L:6:THR:C	2.64	0.40
3:P:85:ASP:O	3:P:88:HIS:HB2	2.22	0.40
3:R:38:MET:HE3	3:R:38:MET:HB3	1.87	0.40
3:R:131:LEU:O	3:R:132:LYS:C	2.64	0.40
3:V:131:LEU:O	3:V:132:LYS:C	2.65	0.40
6:W:201:CYC:OB	6:W:201:CYC:HBB3	2.21	0.40
3:a:81:LYS:O	3:a:82:CYS:C	2.64	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	71/275 (26%)	68 (96%)	3 (4%)	0	100 100
2	B	170/172 (99%)	142 (84%)	24 (14%)	4 (2%)	5 13

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
2	D	170/172 (99%)	144 (85%)	22 (13%)	4 (2%)	5 13
2	F	170/172 (99%)	141 (83%)	26 (15%)	3 (2%)	7 20
2	H	170/172 (99%)	142 (84%)	24 (14%)	4 (2%)	5 13
2	J	170/172 (99%)	143 (84%)	24 (14%)	3 (2%)	7 20
2	L	170/172 (99%)	142 (84%)	24 (14%)	4 (2%)	5 13
2	O	170/172 (99%)	143 (84%)	25 (15%)	2 (1%)	11 29
2	Q	170/172 (99%)	145 (85%)	21 (12%)	4 (2%)	5 13
2	S	170/172 (99%)	141 (83%)	26 (15%)	3 (2%)	7 20
2	U	170/172 (99%)	143 (84%)	23 (14%)	4 (2%)	5 13
2	W	170/172 (99%)	142 (84%)	25 (15%)	3 (2%)	7 20
2	Y	170/172 (99%)	145 (85%)	21 (12%)	4 (2%)	5 13
3	C	160/162 (99%)	135 (84%)	21 (13%)	4 (2%)	4 13
3	E	160/162 (99%)	134 (84%)	22 (14%)	4 (2%)	4 13
3	G	160/162 (99%)	134 (84%)	22 (14%)	4 (2%)	4 13
3	I	160/162 (99%)	135 (84%)	21 (13%)	4 (2%)	4 13
3	K	160/162 (99%)	133 (83%)	23 (14%)	4 (2%)	4 13
3	N	160/162 (99%)	133 (83%)	23 (14%)	4 (2%)	4 13
3	P	160/162 (99%)	134 (84%)	22 (14%)	4 (2%)	4 13
3	R	160/162 (99%)	134 (84%)	22 (14%)	4 (2%)	4 13
3	T	160/162 (99%)	134 (84%)	22 (14%)	4 (2%)	4 13
3	V	160/162 (99%)	134 (84%)	22 (14%)	4 (2%)	4 13
3	X	160/162 (99%)	134 (84%)	22 (14%)	4 (2%)	4 13
3	a	160/162 (99%)	133 (83%)	23 (14%)	4 (2%)	4 13
4	M	271/274 (99%)	257 (95%)	10 (4%)	4 (2%)	8 24
5	Z	219/824 (27%)	193 (88%)	19 (9%)	7 (3%)	3 8
All	All	4521/5381 (84%)	3838 (85%)	582 (13%)	101 (2%)	8 15

All (101) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	C	48	ALA
3	C	49	ASP
3	E	48	ALA

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Mol	Chain	Res	Type
3	E	49	ASP
3	G	48	ALA
3	G	49	ASP
3	I	48	ALA
3	I	49	ASP
3	K	48	ALA
3	K	49	ASP
4	M	89	LEU
3	N	48	ALA
3	N	49	ASP
3	P	48	ALA
3	P	49	ASP
3	R	48	ALA
3	R	49	ASP
3	T	48	ALA
3	T	49	ASP
3	V	48	ALA
3	V	49	ASP
3	X	48	ALA
3	X	49	ASP
5	Z	457	LYS
3	a	48	ALA
3	a	49	ASP
3	C	103	GLY
3	E	103	GLY
3	G	103	GLY
3	I	103	GLY
3	K	103	GLY
4	M	32	SER
3	N	103	GLY
3	P	103	GLY
3	R	103	GLY
3	T	103	GLY
3	V	103	GLY
3	X	103	GLY
5	Z	402	ASN
3	a	103	GLY
2	F	34	SER
3	G	156	TYR
4	M	136	SER
3	N	156	TYR
2	O	34	SER

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Mol	Chain	Res	Type
3	P	156	TYR
2	S	34	SER
3	V	156	TYR
3	X	156	TYR
2	Y	34	SER
3	a	156	TYR
2	B	34	SER
2	B	103	SER
3	C	156	TYR
2	D	34	SER
2	D	48	ALA
2	D	103	SER
3	E	156	TYR
2	F	48	ALA
2	F	103	SER
2	H	34	SER
2	H	103	SER
3	I	156	TYR
2	J	103	SER
3	K	156	TYR
2	L	34	SER
2	L	103	SER
2	Q	34	SER
2	Q	48	ALA
2	Q	103	SER
3	R	156	TYR
2	S	103	SER
3	T	156	TYR
2	U	34	SER
2	U	103	SER
2	W	103	SER
2	Y	103	SER
5	Z	343	VAL
5	Z	529	ALA
2	B	48	ALA
2	H	48	ALA
2	J	48	ALA
2	L	48	ALA
4	M	180	ASN
2	O	48	ALA
2	S	48	ALA
2	U	48	ALA

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Mol	Chain	Res	Type
2	W	48	ALA
2	Y	48	ALA
5	Z	517	ALA
2	L	104	VAL
2	J	104	VAL
2	W	104	VAL
2	Y	104	VAL
2	B	104	VAL
2	H	104	VAL
2	Q	104	VAL
2	U	104	VAL
5	Z	372	ALA
5	Z	558	VAL
2	D	104	VAL

5.3.2 Protein sidechains (i)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	65/240 (27%)	60 (92%)	5 (8%)	10 27
2	B	134/134 (100%)	132 (98%)	2 (2%)	60 78
2	D	134/134 (100%)	129 (96%)	5 (4%)	29 54
2	F	134/134 (100%)	132 (98%)	2 (2%)	60 78
2	H	134/134 (100%)	133 (99%)	1 (1%)	81 90
2	J	134/134 (100%)	133 (99%)	1 (1%)	81 90
2	L	134/134 (100%)	126 (94%)	8 (6%)	16 37
2	O	134/134 (100%)	129 (96%)	5 (4%)	29 54
2	Q	134/134 (100%)	132 (98%)	2 (2%)	60 78
2	S	134/134 (100%)	132 (98%)	2 (2%)	60 78
2	U	134/134 (100%)	132 (98%)	2 (2%)	60 78
2	W	134/134 (100%)	132 (98%)	2 (2%)	60 78
2	Y	134/134 (100%)	130 (97%)	4 (3%)	36 60

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	C	130/130 (100%)	128 (98%)	2 (2%)	60	78
3	E	130/130 (100%)	128 (98%)	2 (2%)	60	78
3	G	130/130 (100%)	129 (99%)	1 (1%)	79	88
3	I	130/130 (100%)	128 (98%)	2 (2%)	60	78
3	K	130/130 (100%)	128 (98%)	2 (2%)	60	78
3	N	130/130 (100%)	129 (99%)	1 (1%)	79	88
3	P	130/130 (100%)	127 (98%)	3 (2%)	45	69
3	R	130/130 (100%)	128 (98%)	2 (2%)	60	78
3	T	130/130 (100%)	129 (99%)	1 (1%)	79	88
3	V	130/130 (100%)	127 (98%)	3 (2%)	45	69
3	X	130/130 (100%)	128 (98%)	2 (2%)	60	78
3	a	130/130 (100%)	129 (99%)	1 (1%)	79	88
4	M	237/238 (100%)	220 (93%)	17 (7%)	12	30
5	Z	177/670 (26%)	166 (94%)	11 (6%)	15	36
All	All	3647/4316 (84%)	3556 (98%)	91 (2%)	43	66

All (91) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	3	LEU
1	A	13	LYS
1	A	21	LEU
1	A	59	ILE
1	A	73	GLU
2	B	1	MET
2	B	166	LYS
3	C	30	ARG
3	C	87	SER
2	D	32	LYS
2	D	75	PRO
2	D	114	LYS
2	D	122	THR
2	D	166	LYS
3	E	30	ARG
3	E	81	LYS
2	F	75	PRO
2	F	166	LYS

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Mol	Chain	Res	Type
3	G	30	ARG
2	H	166	LYS
3	I	5	ILE
3	I	30	ARG
2	J	166	LYS
3	K	30	ARG
3	K	81	LYS
2	L	1	MET
2	L	58	LYS
2	L	105	LEU
2	L	106	GLU
2	L	108	ARG
2	L	111	ASN
2	L	113	LEU
2	L	166	LYS
4	M	1	MET
4	M	6	THR
4	M	9	GLN
4	M	35	THR
4	M	45	VAL
4	M	46	VAL
4	M	49	LEU
4	M	50	ASP
4	M	119	VAL
4	M	162	ASN
4	M	168	LEU
4	M	179	TYR
4	M	218	VAL
4	M	232	VAL
4	M	233	GLU
4	M	264	LYS
4	M	267	LEU
3	N	30	ARG
2	O	1	MET
2	O	104	VAL
2	O	105	LEU
2	O	108	ARG
2	O	166	LYS
3	P	30	ARG
3	P	62	LYS
3	P	87	SER
2	Q	32	LYS

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Mol	Chain	Res	Type
2	Q	166	LYS
3	R	30	ARG
3	R	81	LYS
2	S	15	ARG
2	S	166	LYS
3	T	30	ARG
2	U	15	ARG
2	U	166	LYS
3	V	5	ILE
3	V	30	ARG
3	V	38	MET
2	W	78	ARG
2	W	166	LYS
3	X	30	ARG
3	X	81	LYS
2	Y	1	MET
2	Y	58	LYS
2	Y	75	PRO
2	Y	166	LYS
5	Z	348	GLN
5	Z	351	THR
5	Z	420	ASN
5	Z	423	ILE
5	Z	425	VAL
5	Z	460	LEU
5	Z	480	SER
5	Z	490	ILE
5	Z	498	VAL
5	Z	499	PHE
5	Z	558	VAL
3	a	30	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (70) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	8	GLN
2	B	2	GLN
2	B	111	ASN
3	C	28	ASN
3	C	68	GLN
2	D	2	GLN
2	D	111	ASN

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Mol	Chain	Res	Type
3	E	15	GLN
3	E	21	ASN
3	E	25	GLN
3	E	28	ASN
3	E	68	GLN
3	E	88	HIS
3	G	21	ASN
3	G	25	GLN
3	G	28	ASN
3	G	68	GLN
2	H	2	GLN
2	H	22	GLN
2	H	111	ASN
3	I	21	ASN
3	I	25	GLN
3	I	68	GLN
3	K	21	ASN
3	K	25	GLN
3	K	28	ASN
3	K	32	GLN
3	K	68	GLN
3	K	88	HIS
2	L	2	GLN
2	L	72	ASN
4	M	41	ASN
4	M	257	GLN
3	N	21	ASN
3	N	68	GLN
2	O	2	GLN
2	O	111	ASN
3	P	15	GLN
3	P	28	ASN
3	P	68	GLN
2	Q	47	ASN
3	R	15	GLN
3	R	21	ASN
3	R	25	GLN
3	R	68	GLN
3	R	88	HIS
3	T	21	ASN
3	T	25	GLN
3	T	28	ASN

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Mol	Chain	Res	Type
3	T	68	GLN
2	U	22	GLN
2	U	35	ASN
3	V	21	ASN
3	V	25	GLN
3	V	68	GLN
3	X	21	ASN
3	X	25	GLN
3	X	68	GLN
3	X	88	HIS
2	Y	2	GLN
2	Y	47	ASN
2	Y	72	ASN
2	Y	111	ASN
5	Z	389	GLN
5	Z	420	ASN
5	Z	448	ASN
5	Z	475	ASN
5	Z	525	GLN
3	a	21	ASN
3	a	68	GLN

5.3.3 RNA

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates

There are no oligosaccharides in this entry.

5.6 Ligand geometry

36 ligands are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The

Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
6	CYC	V	201	3	42,46,46	1.22	4 (9%)	50,67,67	1.23	5 (10%)
6	CYC	a	201	3	42,46,46	1.03	3 (7%)	50,67,67	1.22	5 (10%)
6	CYC	X	201	3	42,46,46	1.34	4 (9%)	50,67,67	1.43	7 (14%)
6	CYC	H	202	2	42,46,46	1.18	2 (4%)	50,67,67	0.99	2 (4%)
6	CYC	W	201	2	42,46,46	1.17	2 (4%)	50,67,67	1.55	5 (10%)
6	CYC	U	202	2	42,46,46	1.35	4 (9%)	50,67,67	1.17	5 (10%)
6	CYC	F	201	2	42,46,46	1.01	1 (2%)	50,67,67	1.10	2 (4%)
6	CYC	K	201	3	42,46,46	0.98	3 (7%)	50,67,67	1.15	4 (8%)
6	CYC	I	201	3	42,46,46	0.95	3 (7%)	50,67,67	1.05	2 (4%)
6	CYC	Y	202	2	42,46,46	1.55	8 (19%)	50,67,67	1.65	8 (16%)
6	CYC	Q	202	2	42,46,46	1.41	5 (11%)	50,67,67	1.72	9 (18%)
6	CYC	O	202	2	42,46,46	1.07	3 (7%)	50,67,67	1.11	3 (6%)
6	CYC	J	201	2	42,46,46	0.87	0	50,67,67	1.27	3 (6%)
6	CYC	L	202	2	42,46,46	0.87	0	50,67,67	1.07	4 (8%)
6	CYC	T	201	3	42,46,46	1.21	4 (9%)	50,67,67	1.33	7 (14%)
6	CYC	U	201	2	42,46,46	1.37	4 (9%)	50,67,67	1.54	6 (12%)
6	CYC	D	202	2	42,46,46	0.90	1 (2%)	50,67,67	1.32	5 (10%)
6	CYC	G	201	3	42,46,46	1.00	2 (4%)	50,67,67	1.11	2 (4%)
6	CYC	B	201	2	42,46,46	0.99	2 (4%)	50,67,67	1.14	3 (6%)
6	CYC	N	201	3	42,46,46	1.26	4 (9%)	50,67,67	1.30	5 (10%)
6	CYC	E	201	3	42,46,46	0.90	1 (2%)	50,67,67	1.08	2 (4%)
6	CYC	O	201	2	42,46,46	1.12	3 (7%)	50,67,67	1.22	5 (10%)
6	CYC	C	201	3	42,46,46	1.01	3 (7%)	50,67,67	1.29	7 (14%)
6	CYC	S	202	2	42,46,46	1.14	4 (9%)	50,67,67	1.41	5 (10%)
6	CYC	S	201	2	42,46,46	1.20	3 (7%)	50,67,67	1.33	3 (6%)
6	CYC	R	201	3	42,46,46	1.05	3 (7%)	50,67,67	1.28	3 (6%)
6	CYC	W	202	2	42,46,46	1.23	4 (9%)	50,67,67	1.25	3 (6%)
6	CYC	F	202	2	42,46,46	0.96	2 (4%)	50,67,67	1.51	5 (10%)
6	CYC	P	201	3	42,46,46	1.29	4 (9%)	50,67,67	1.45	8 (16%)
6	CYC	L	201	2	42,46,46	1.18	1 (2%)	50,67,67	1.20	4 (8%)
6	CYC	Q	201	2	42,46,46	1.34	4 (9%)	50,67,67	1.43	9 (18%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
6	CYC	Y	201	2	42,46,46	1.16	5 (11%)	50,67,67	1.12	2 (4%)
6	CYC	H	201	2	42,46,46	1.21	2 (4%)	50,67,67	1.24	5 (10%)
6	CYC	D	201	2	42,46,46	0.95	1 (2%)	50,67,67	1.28	7 (14%)
6	CYC	B	202	2	42,46,46	0.92	1 (2%)	50,67,67	1.18	3 (6%)
6	CYC	J	202	2	42,46,46	0.88	1 (2%)	50,67,67	1.09	4 (8%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
6	CYC	V	201	3	-	9/25/74/74	0/4/4/4
6	CYC	a	201	3	-	11/25/74/74	0/4/4/4
6	CYC	X	201	3	-	8/25/74/74	0/4/4/4
6	CYC	H	202	2	-	7/25/74/74	0/4/4/4
6	CYC	W	201	2	-	12/25/74/74	0/4/4/4
6	CYC	U	202	2	-	7/25/74/74	0/4/4/4
6	CYC	F	201	2	-	11/25/74/74	0/4/4/4
6	CYC	K	201	3	-	12/25/74/74	0/4/4/4
6	CYC	I	201	3	-	12/25/74/74	0/4/4/4
6	CYC	Y	202	2	-	13/25/74/74	0/4/4/4
6	CYC	Q	202	2	-	13/25/74/74	0/4/4/4
6	CYC	O	202	2	-	7/25/74/74	0/4/4/4
6	CYC	J	201	2	-	12/25/74/74	0/4/4/4
6	CYC	L	202	2	-	7/25/74/74	0/4/4/4
6	CYC	T	201	3	-	7/25/74/74	0/4/4/4
6	CYC	U	201	2	-	8/25/74/74	0/4/4/4
6	CYC	D	202	2	-	12/25/74/74	0/4/4/4
6	CYC	G	201	3	-	9/25/74/74	0/4/4/4
6	CYC	B	201	2	-	12/25/74/74	0/4/4/4
6	CYC	N	201	3	-	12/25/74/74	0/4/4/4
6	CYC	E	201	3	-	10/25/74/74	0/4/4/4
6	CYC	O	201	2	-	10/25/74/74	0/4/4/4
6	CYC	C	201	3	-	10/25/74/74	0/4/4/4
6	CYC	S	202	2	-	8/25/74/74	0/4/4/4

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
6	CYC	S	201	2	-	11/25/74/74	0/4/4/4
6	CYC	R	201	3	-	8/25/74/74	0/4/4/4
6	CYC	W	202	2	-	7/25/74/74	0/4/4/4
6	CYC	F	202	2	-	8/25/74/74	0/4/4/4
6	CYC	P	201	3	-	9/25/74/74	0/4/4/4
6	CYC	L	201	2	-	11/25/74/74	0/4/4/4
6	CYC	Q	201	2	-	5/25/74/74	0/4/4/4
6	CYC	Y	201	2	-	8/25/74/74	0/4/4/4
6	CYC	H	201	2	-	6/25/74/74	0/4/4/4
6	CYC	D	201	2	-	7/25/74/74	0/4/4/4
6	CYC	B	202	2	-	8/25/74/74	0/4/4/4
6	CYC	J	202	2	-	5/25/74/74	0/4/4/4

All (101) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	L	201	CYC	CHA-C1A	5.85	1.40	1.35
6	H	202	CYC	CHA-C1A	5.02	1.39	1.35
6	U	202	CYC	CHA-C1A	4.60	1.39	1.35
6	Y	202	CYC	CHB-C4A	-4.53	1.29	1.40
6	X	201	CYC	C1B-C2B	-4.28	1.37	1.45
6	V	201	CYC	C1B-C2B	-4.24	1.37	1.45
6	H	201	CYC	C1B-C2B	-4.23	1.37	1.45
6	Y	202	CYC	C1B-C2B	-4.18	1.37	1.45
6	Q	202	CYC	C2C-C1C	-3.99	1.48	1.52
6	S	201	CYC	CHA-C1A	3.97	1.38	1.35
6	Q	202	CYC	CHB-C4A	-3.93	1.31	1.40
6	F	201	CYC	CHA-C1A	3.85	1.38	1.35
6	U	202	CYC	C1B-C2B	-3.81	1.38	1.45
6	N	201	CYC	C1B-C2B	-3.69	1.38	1.45
6	T	201	CYC	C1B-C2B	-3.69	1.38	1.45
6	U	201	CYC	CHB-C4A	-3.68	1.31	1.40
6	B	201	CYC	CHA-C1A	3.60	1.38	1.35
6	Q	201	CYC	C1B-C2B	-3.56	1.38	1.45
6	P	201	CYC	CHB-C4A	-3.52	1.32	1.40
6	Q	201	CYC	C2C-C1C	-3.41	1.49	1.52
6	O	202	CYC	CHA-C1A	3.34	1.37	1.35
6	P	201	CYC	C1B-C2B	-3.33	1.39	1.45
6	U	201	CYC	CHB-C1B	-3.29	1.30	1.38
6	W	202	CYC	CHA-C1A	3.28	1.37	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	D	202	CYC	CHA-C1A	3.24	1.37	1.35
6	H	201	CYC	CHB-C4A	-3.20	1.32	1.40
6	X	201	CYC	CHB-C4A	-3.17	1.33	1.40
6	Q	201	CYC	CHB-C4A	-3.15	1.33	1.40
6	O	201	CYC	CHA-C1A	3.08	1.37	1.35
6	a	201	CYC	CHB-C4A	-3.03	1.33	1.40
6	a	201	CYC	C1B-C2B	-2.99	1.39	1.45
6	Y	202	CYC	C2C-C1C	-2.94	1.49	1.52
6	C	201	CYC	CHA-C1A	2.94	1.37	1.35
6	Y	201	CYC	CHA-C1A	2.92	1.37	1.35
6	S	201	CYC	C1B-C2B	-2.88	1.39	1.45
6	Q	201	CYC	CHB-C1B	-2.85	1.31	1.38
6	H	202	CYC	C1B-C2B	-2.85	1.40	1.45
6	W	202	CYC	C1B-C2B	-2.82	1.40	1.45
6	K	201	CYC	C1B-C2B	-2.81	1.40	1.45
6	W	201	CYC	CHB-C4A	-2.79	1.33	1.40
6	N	201	CYC	CHB-C4A	-2.77	1.33	1.40
6	F	202	CYC	CHB-C1B	-2.76	1.31	1.38
6	X	201	CYC	CHB-C1B	-2.72	1.31	1.38
6	T	201	CYC	CHB-C4A	-2.72	1.34	1.40
6	U	201	CYC	C1B-C2B	-2.69	1.40	1.45
6	Y	201	CYC	C1B-C2B	-2.69	1.40	1.45
6	S	202	CYC	CHB-C4A	-2.69	1.34	1.40
6	O	202	CYC	C1B-C2B	-2.66	1.40	1.45
6	F	202	CYC	CHB-C4A	-2.62	1.34	1.40
6	R	201	CYC	C1B-C2B	-2.61	1.40	1.45
6	G	201	CYC	C1B-C2B	-2.60	1.40	1.45
6	O	201	CYC	C1B-C2B	-2.60	1.40	1.45
6	Q	202	CYC	OC-C1C	-2.58	1.18	1.23
6	C	201	CYC	CHB-C4A	-2.55	1.34	1.40
6	V	201	CYC	CHB-C4A	-2.53	1.34	1.40
6	S	202	CYC	CHB-C1B	-2.49	1.32	1.38
6	E	201	CYC	CHA-C1A	2.48	1.37	1.35
6	P	201	CYC	CHB-C1B	-2.46	1.32	1.38
6	Y	202	CYC	CAD-C3D	-2.46	1.48	1.52
6	I	201	CYC	C1B-C2B	-2.43	1.40	1.45
6	O	201	CYC	CHB-C4A	-2.40	1.34	1.40
6	U	201	CYC	CAD-C3D	-2.38	1.48	1.52
6	K	201	CYC	CHB-C1B	-2.37	1.32	1.38
6	K	201	CYC	CHB-C4A	-2.37	1.34	1.40
6	G	201	CYC	CHA-C1A	2.36	1.37	1.35
6	R	201	CYC	C2C-C1C	-2.35	1.50	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	S	202	CYC	C2C-C1C	-2.33	1.50	1.52
6	Y	202	CYC	C1C-NC	-2.27	1.34	1.37
6	B	202	CYC	C1B-C2B	-2.26	1.41	1.45
6	Q	202	CYC	CAD-C3D	-2.25	1.48	1.52
6	N	201	CYC	CAD-C3D	-2.23	1.48	1.52
6	a	201	CYC	CHB-C1B	-2.23	1.32	1.38
6	J	202	CYC	CHA-C1A	2.22	1.37	1.35
6	U	202	CYC	CHB-C4A	-2.22	1.35	1.40
6	P	201	CYC	C2C-C1C	-2.22	1.50	1.52
6	X	201	CYC	C2C-C1C	-2.22	1.50	1.52
6	D	201	CYC	C1B-C2B	-2.21	1.41	1.45
6	W	201	CYC	C2C-C1C	-2.20	1.50	1.52
6	V	201	CYC	C2C-C1C	-2.19	1.50	1.52
6	T	201	CYC	C2C-C1C	-2.19	1.50	1.52
6	W	202	CYC	CHB-C4A	-2.18	1.35	1.40
6	Y	201	CYC	CHB-C1B	-2.18	1.32	1.38
6	C	201	CYC	C1B-C2B	-2.15	1.41	1.45
6	R	201	CYC	CHB-C4A	-2.14	1.35	1.40
6	S	202	CYC	C1B-C2B	-2.14	1.41	1.45
6	B	201	CYC	C1B-C2B	-2.12	1.41	1.45
6	Y	201	CYC	C2C-C1C	-2.12	1.50	1.52
6	I	201	CYC	CHB-C4A	-2.11	1.35	1.40
6	Y	202	CYC	OC-C1C	-2.10	1.19	1.23
6	Y	202	CYC	CHB-C1B	-2.10	1.32	1.38
6	Y	202	CYC	CHA-C1A	2.09	1.36	1.35
6	N	201	CYC	CHB-C1B	-2.08	1.33	1.38
6	U	202	CYC	CHB-C1B	-2.06	1.33	1.38
6	O	202	CYC	CHB-C4A	-2.04	1.35	1.40
6	V	201	CYC	CHB-C1B	-2.04	1.33	1.38
6	S	201	CYC	C2C-C1C	-2.04	1.50	1.52
6	T	201	CYC	O2A-CGA	-2.04	1.23	1.30
6	I	201	CYC	CHA-C1A	2.02	1.36	1.35
6	Y	201	CYC	CHB-C4A	-2.02	1.35	1.40
6	W	202	CYC	CHD-C4C	-2.01	1.32	1.38
6	Q	202	CYC	CAC-C3C	-2.01	1.50	1.54

All (167) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	Q	202	CYC	CMB-C2B-C1B	6.97	132.87	124.17
6	W	201	CYC	CMB-C2B-C1B	6.70	132.53	124.17
6	U	201	CYC	CMB-C2B-C1B	6.66	132.49	124.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	S	202	CYC	CMB-C2B-C1B	5.30	130.79	124.17
6	Y	202	CYC	CHB-C1B-C2B	-5.25	116.55	126.95
6	S	201	CYC	CMB-C2B-C1B	5.11	130.55	124.17
6	F	202	CYC	CMB-C2B-C1B	5.03	130.45	124.17
6	F	202	CYC	CHA-C1A-NA	-5.03	121.85	128.83
6	V	201	CYC	CHD-C4C-NC	4.59	130.67	125.20
6	P	201	CYC	CMB-C2B-C1B	4.51	129.79	124.17
6	Y	202	CYC	CHA-C1A-NA	-4.47	122.62	128.83
6	J	201	CYC	C4D-CHA-C1A	-4.47	123.47	128.81
6	W	202	CYC	CMB-C2B-C1B	4.46	129.74	124.17
6	R	201	CYC	CHD-C4C-NC	4.26	130.27	125.20
6	D	202	CYC	CMB-C2B-C1B	4.23	129.45	124.17
6	X	201	CYC	CHD-C4C-NC	4.15	130.14	125.20
6	L	201	CYC	CMB-C2B-C1B	4.14	129.34	124.17
6	B	202	CYC	CHA-C1A-NA	-4.14	123.08	128.83
6	Q	201	CYC	CHD-C4C-NC	4.14	130.12	125.20
6	W	201	CYC	C4D-CHA-C1A	-4.07	123.95	128.81
6	R	201	CYC	CHA-C1A-NA	-4.03	123.24	128.83
6	Q	202	CYC	CHA-C1A-NA	-4.02	123.26	128.83
6	W	201	CYC	CHA-C1A-NA	-3.99	123.29	128.83
6	Y	202	CYC	CHB-C1B-NB	3.91	134.45	126.06
6	E	201	CYC	CHA-C1A-NA	-3.90	123.42	128.83
6	J	201	CYC	CHA-C1A-NA	-3.89	123.43	128.83
6	K	201	CYC	CHA-C1A-NA	-3.82	123.53	128.83
6	N	201	CYC	CHA-C1A-NA	-3.81	123.54	128.83
6	G	201	CYC	CHA-C1A-NA	-3.81	123.55	128.83
6	D	202	CYC	CHA-C1A-NA	-3.77	123.59	128.83
6	J	201	CYC	CMB-C2B-C1B	3.75	128.85	124.17
6	a	201	CYC	CHA-C1A-NA	-3.72	123.66	128.83
6	O	201	CYC	CMB-C2B-C1B	3.71	128.80	124.17
6	P	201	CYC	CHD-C4C-NC	3.69	129.60	125.20
6	C	201	CYC	CMB-C2B-C1B	3.66	128.74	124.17
6	T	201	CYC	CHA-C1A-NA	-3.63	123.79	128.83
6	O	202	CYC	CMB-C2B-C1B	3.62	128.68	124.17
6	S	202	CYC	CHA-C1A-NA	-3.58	123.86	128.83
6	X	201	CYC	CHA-C1A-NA	-3.58	123.86	128.83
6	C	201	CYC	CHA-C1A-NA	-3.55	123.91	128.83
6	J	202	CYC	CMB-C2B-C1B	3.48	128.51	124.17
6	H	201	CYC	CHB-C1B-C2B	-3.47	120.07	126.95
6	D	201	CYC	C2C-C1C-NC	-3.42	105.33	108.27
6	T	201	CYC	CHD-C4C-NC	3.40	129.25	125.20
6	Y	202	CYC	CMB-C2B-C1B	3.38	128.39	124.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	L	201	CYC	CHB-C1B-C2B	-3.38	120.26	126.95
6	Y	201	CYC	CMB-C2B-C1B	3.34	128.34	124.17
6	T	201	CYC	CMB-C2B-C1B	3.33	128.32	124.17
6	S	201	CYC	CHA-C1A-NA	-3.27	124.29	128.83
6	B	202	CYC	C4D-CHA-C1A	-3.26	124.92	128.81
6	P	201	CYC	CHA-C1A-NA	-3.23	124.35	128.83
6	U	201	CYC	CHA-C1A-NA	-3.19	124.40	128.83
6	R	201	CYC	CMB-C2B-C1B	3.13	128.07	124.17
6	F	201	CYC	CHA-C1A-NA	-3.12	124.50	128.83
6	B	201	CYC	CMB-C2B-C1B	3.07	127.99	124.17
6	N	201	CYC	CMB-C2B-C1B	3.04	127.96	124.17
6	X	201	CYC	CMB-C2B-C1B	3.02	127.93	124.17
6	U	201	CYC	CMA-C3A-C4A	2.99	129.68	125.06
6	U	202	CYC	CMB-C2B-C1B	2.99	127.90	124.17
6	W	202	CYC	CHD-C4C-NC	2.97	128.74	125.20
6	O	202	CYC	CHA-C1A-NA	-2.96	124.72	128.83
6	Q	202	CYC	CHB-C1B-C2B	-2.95	121.10	126.95
6	Q	201	CYC	CMC-C2C-C1C	-2.93	106.10	112.40
6	I	201	CYC	CHA-C1A-NA	-2.91	124.79	128.83
6	B	201	CYC	CHA-C1A-NA	-2.91	124.79	128.83
6	Q	202	CYC	CMB-C2B-C3B	-2.89	118.27	126.12
6	Q	201	CYC	CHA-C1A-NA	-2.86	124.86	128.83
6	B	202	CYC	CMB-C2B-C1B	2.85	127.72	124.17
6	F	202	CYC	CMA-C3A-C4A	2.84	129.44	125.06
6	U	201	CYC	CHB-C1B-C2B	-2.84	121.32	126.95
6	O	201	CYC	CAC-C3C-C4C	-2.81	105.45	112.67
6	N	201	CYC	CHD-C4C-NC	2.81	128.54	125.20
6	L	202	CYC	CHA-C1A-NA	-2.80	124.94	128.83
6	F	201	CYC	CMB-C2B-C1B	2.77	127.62	124.17
6	I	201	CYC	CHD-C4C-NC	2.76	128.48	125.20
6	H	201	CYC	C4D-CHA-C1A	-2.75	125.52	128.81
6	N	201	CYC	C2C-C1C-NC	2.75	110.64	108.27
6	U	201	CYC	C4D-CHA-C1A	-2.74	125.54	128.81
6	L	201	CYC	CHA-C1A-NA	-2.73	125.03	128.83
6	D	201	CYC	CHD-C4C-NC	2.72	128.44	125.20
6	Q	202	CYC	C1B-CHB-C4A	2.72	134.73	128.08
6	F	202	CYC	CAB-C3B-C2B	2.71	132.17	127.53
6	O	201	CYC	CHA-C1A-NA	-2.70	125.09	128.83
6	P	201	CYC	C2C-C3C-C4C	2.68	105.36	101.34
6	Y	201	CYC	CHA-C1A-NA	-2.67	125.12	128.83
6	W	201	CYC	CMB-C2B-C3B	-2.67	118.88	126.12
6	V	201	CYC	CHA-C1A-NA	-2.66	125.14	128.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	Q	202	CYC	CMA-C3A-C4A	2.64	129.13	125.06
6	S	202	CYC	C2C-C3C-C4C	2.60	105.24	101.34
6	D	202	CYC	CHB-C1B-C2B	-2.59	121.82	126.95
6	H	202	CYC	CHA-C1A-NA	-2.58	125.25	128.83
6	X	201	CYC	CAB-C3B-C2B	2.58	131.94	127.53
6	Q	201	CYC	C2C-C1C-NC	-2.58	106.05	108.27
6	Q	201	CYC	CMB-C2B-C1B	2.55	127.35	124.17
6	L	202	CYC	CHD-C4C-NC	2.54	128.23	125.20
6	a	201	CYC	C4D-CHA-C1A	-2.54	125.78	128.81
6	H	201	CYC	C3B-C4B-NB	-2.53	104.73	106.78
6	K	201	CYC	C4D-CHA-C1A	-2.52	125.80	128.81
6	U	201	CYC	CMB-C2B-C3B	-2.47	119.40	126.12
6	X	201	CYC	CBD-CAD-C3D	-2.47	108.41	112.62
6	C	201	CYC	C1B-CHB-C4A	-2.45	122.09	128.08
6	a	201	CYC	CHD-C4C-NC	2.45	128.11	125.20
6	U	202	CYC	CHA-C1A-NA	-2.45	125.43	128.83
6	D	201	CYC	CAC-C3C-C2C	2.44	120.35	114.26
6	N	201	CYC	OC-C1C-C2C	-2.41	124.26	126.17
6	U	202	CYC	CHD-C4C-NC	2.39	128.05	125.20
6	L	201	CYC	CHB-C1B-NB	2.38	131.17	126.06
6	Y	202	CYC	C4D-CHA-C1A	-2.37	125.98	128.81
6	X	201	CYC	C1B-CHB-C4A	-2.36	122.31	128.08
6	S	202	CYC	CMA-C3A-C4A	2.35	128.69	125.06
6	O	201	CYC	CHD-C4C-NC	2.35	128.00	125.20
6	P	201	CYC	C4D-CHA-C1A	-2.34	126.01	128.81
6	K	201	CYC	C1B-CHB-C4A	-2.33	122.39	128.08
6	C	201	CYC	C4D-CHA-C1A	-2.33	126.03	128.81
6	T	201	CYC	C4D-CHA-C1A	-2.31	126.05	128.81
6	L	202	CYC	CMB-C2B-C1B	2.31	127.05	124.17
6	Q	201	CYC	OC-C1C-NC	2.30	127.73	124.94
6	Q	202	CYC	C2C-C3C-C4C	2.30	104.78	101.34
6	F	202	CYC	CHB-C4A-NA	-2.29	120.13	124.93
6	H	201	CYC	CHD-C4C-NC	2.29	127.93	125.20
6	D	201	CYC	CMA-C3A-C4A	2.29	128.59	125.06
6	P	201	CYC	OC-C1C-C2C	-2.28	124.36	126.17
6	E	201	CYC	CMB-C2B-C1B	2.27	127.00	124.17
6	D	201	CYC	CHA-C1A-NA	-2.26	125.69	128.83
6	C	201	CYC	CHD-C4C-NC	2.26	127.89	125.20
6	T	201	CYC	OC-C1C-C2C	-2.24	124.39	126.17
6	D	201	CYC	OC-C1C-NC	2.23	127.65	124.94
6	Y	202	CYC	C2C-C3C-C4C	2.23	104.69	101.34
6	D	201	CYC	CMB-C2B-C1B	2.23	126.95	124.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	O	202	CYC	C1B-NB-C4B	-2.23	107.83	110.67
6	Q	202	CYC	OC-C1C-C2C	-2.22	124.41	126.17
6	J	202	CYC	CHD-C4C-NC	2.22	127.84	125.20
6	X	201	CYC	C4D-CHA-C1A	-2.21	126.17	128.81
6	U	202	CYC	CAC-C3C-C4C	-2.19	107.06	112.67
6	B	201	CYC	CAC-C3C-C4C	-2.18	107.08	112.67
6	K	201	CYC	C2B-C1B-NB	2.15	110.13	106.99
6	S	201	CYC	CMA-C3A-C4A	2.15	128.37	125.06
6	C	201	CYC	CAC-C3C-C2C	2.14	119.61	114.26
6	H	201	CYC	CHA-C1A-NA	-2.14	125.86	128.83
6	Y	202	CYC	O1D-CGD-CBD	-2.13	116.23	123.08
6	Q	201	CYC	CMA-C3A-C4A	2.13	128.34	125.06
6	C	201	CYC	CAC-C3C-C4C	-2.13	107.20	112.67
6	D	202	CYC	C1B-CHB-C4A	2.13	133.27	128.08
6	P	201	CYC	CBD-CAD-C3D	-2.12	109.01	112.62
6	V	201	CYC	CMB-C2B-C1B	2.12	126.81	124.17
6	V	201	CYC	C2C-C3C-C4C	2.11	104.50	101.34
6	Q	201	CYC	C2B-C1B-NB	2.09	110.05	106.99
6	T	201	CYC	C2C-C3C-C4C	2.09	104.47	101.34
6	W	201	CYC	CMA-C3A-C4A	2.08	128.27	125.06
6	T	201	CYC	CAB-C3B-C2B	2.08	131.09	127.53
6	Q	201	CYC	CAC-C3C-C4C	-2.08	107.33	112.67
6	a	201	CYC	CHB-C1B-C2B	-2.06	122.86	126.95
6	L	202	CYC	CMA-C3A-C4A	2.06	128.24	125.06
6	J	202	CYC	CHA-C1A-NA	-2.05	125.98	128.83
6	V	201	CYC	C3B-C4B-NB	-2.05	105.12	106.78
6	J	202	CYC	CMA-C3A-C4A	2.05	128.22	125.06
6	Y	202	CYC	C1B-CHB-C4A	2.05	133.08	128.08
6	O	201	CYC	CBD-CAD-C3D	-2.04	109.13	112.62
6	H	202	CYC	CMA-C3A-C4A	2.03	128.19	125.06
6	S	202	CYC	C2B-C1B-NB	2.02	109.95	106.99
6	W	202	CYC	CHB-C1B-C2B	-2.02	122.94	126.95
6	a	201	CYC	C2B-C1B-NB	2.02	109.94	106.99
6	D	202	CYC	C2C-C3C-C4C	2.02	104.36	101.34
6	G	201	CYC	C4D-CHA-C1A	-2.02	126.40	128.81
6	P	201	CYC	C3B-C4B-NB	-2.01	105.15	106.78
6	Q	202	CYC	CHD-C4C-NC	2.00	127.59	125.20
6	U	202	CYC	CMA-C3A-C4A	2.00	128.15	125.06

There are no chirality outliers.

All (332) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
6	B	201	CYC	NA-C4A-CHB-C1B
6	B	201	CYC	C3A-C4A-CHB-C1B
6	B	201	CYC	C2C-C3C-CAC-CBC
6	B	201	CYC	C4C-C3C-CAC-CBC
6	B	201	CYC	ND-C1D-CHD-C4C
6	B	202	CYC	NA-C4A-CHB-C1B
6	C	201	CYC	NA-C4A-CHB-C1B
6	C	201	CYC	C3A-C4A-CHB-C1B
6	C	201	CYC	C2A-CAA-CBA-CGA
6	C	201	CYC	NC-C4C-CHD-C1D
6	C	201	CYC	ND-C1D-CHD-C4C
6	C	201	CYC	C2D-C1D-CHD-C4C
6	D	201	CYC	NA-C4A-CHB-C1B
6	D	201	CYC	ND-C1D-CHD-C4C
6	D	202	CYC	NA-C4A-CHB-C1B
6	D	202	CYC	C3A-C4A-CHB-C1B
6	D	202	CYC	C2C-C3C-CAC-CBC
6	D	202	CYC	C4C-C3C-CAC-CBC
6	D	202	CYC	ND-C1D-CHD-C4C
6	D	202	CYC	C2D-C1D-CHD-C4C
6	E	201	CYC	NA-C4A-CHB-C1B
6	E	201	CYC	NC-C4C-CHD-C1D
6	E	201	CYC	ND-C1D-CHD-C4C
6	E	201	CYC	C2D-C1D-CHD-C4C
6	F	201	CYC	NA-C4A-CHB-C1B
6	F	201	CYC	C3A-C4A-CHB-C1B
6	F	201	CYC	C2C-C3C-CAC-CBC
6	F	201	CYC	C4C-C3C-CAC-CBC
6	F	201	CYC	ND-C1D-CHD-C4C
6	F	201	CYC	C2D-C1D-CHD-C4C
6	F	202	CYC	NA-C4A-CHB-C1B
6	F	202	CYC	C2B-C3B-CAB-CBB
6	F	202	CYC	C4C-C3C-CAC-CBC
6	F	202	CYC	ND-C1D-CHD-C4C
6	F	202	CYC	C2D-C1D-CHD-C4C
6	G	201	CYC	NA-C4A-CHB-C1B
6	G	201	CYC	C3A-C4A-CHB-C1B
6	G	201	CYC	C2A-CAA-CBA-CGA
6	G	201	CYC	NC-C4C-CHD-C1D
6	G	201	CYC	ND-C1D-CHD-C4C
6	G	201	CYC	C2D-C1D-CHD-C4C
6	H	201	CYC	ND-C1D-CHD-C4C
6	H	201	CYC	C2D-C1D-CHD-C4C

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Mol	Chain	Res	Type	Atoms
6	H	202	CYC	NA-C4A-CHB-C1B
6	H	202	CYC	C3A-C4A-CHB-C1B
6	I	201	CYC	NA-C4A-CHB-C1B
6	I	201	CYC	C4C-C3C-CAC-CBC
6	I	201	CYC	NC-C4C-CHD-C1D
6	I	201	CYC	ND-C1D-CHD-C4C
6	I	201	CYC	C2D-C1D-CHD-C4C
6	J	201	CYC	C4B-C3B-CAB-CBB
6	J	201	CYC	C4C-C3C-CAC-CBC
6	K	201	CYC	NA-C4A-CHB-C1B
6	K	201	CYC	C3A-C4A-CHB-C1B
6	K	201	CYC	C4C-C3C-CAC-CBC
6	K	201	CYC	NC-C4C-CHD-C1D
6	K	201	CYC	ND-C1D-CHD-C4C
6	K	201	CYC	C2D-C1D-CHD-C4C
6	L	201	CYC	NA-C4A-CHB-C1B
6	L	201	CYC	C3A-C4A-CHB-C1B
6	L	201	CYC	C2B-C1B-CHB-C4A
6	L	201	CYC	C4C-C3C-CAC-CBC
6	L	201	CYC	NC-C4C-CHD-C1D
6	L	201	CYC	ND-C1D-CHD-C4C
6	L	201	CYC	C2D-C1D-CHD-C4C
6	L	202	CYC	NA-C4A-CHB-C1B
6	L	202	CYC	C3A-C4A-CHB-C1B
6	N	201	CYC	NA-C4A-CHB-C1B
6	N	201	CYC	C3A-C4A-CHB-C1B
6	N	201	CYC	NC-C4C-CHD-C1D
6	N	201	CYC	ND-C1D-CHD-C4C
6	N	201	CYC	C2D-C1D-CHD-C4C
6	O	201	CYC	NA-C4A-CHB-C1B
6	O	201	CYC	C3A-C4A-CHB-C1B
6	O	201	CYC	C2C-C3C-CAC-CBC
6	O	201	CYC	C4C-C3C-CAC-CBC
6	O	202	CYC	NA-C4A-CHB-C1B
6	O	202	CYC	C3A-C4A-CHB-C1B
6	O	202	CYC	ND-C1D-CHD-C4C
6	P	201	CYC	NA-C4A-CHB-C1B
6	P	201	CYC	C3A-C4A-CHB-C1B
6	P	201	CYC	NC-C4C-CHD-C1D
6	P	201	CYC	ND-C1D-CHD-C4C
6	P	201	CYC	C2D-C1D-CHD-C4C
6	Q	201	CYC	NA-C4A-CHB-C1B

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Mol	Chain	Res	Type	Atoms
6	Q	201	CYC	C3A-C4A-CHB-C1B
6	Q	202	CYC	NA-C4A-CHB-C1B
6	Q	202	CYC	C4B-C3B-CAB-CBB
6	Q	202	CYC	C4C-C3C-CAC-CBC
6	Q	202	CYC	ND-C1D-CHD-C4C
6	Q	202	CYC	C2D-C1D-CHD-C4C
6	R	201	CYC	NA-C4A-CHB-C1B
6	R	201	CYC	NC-C4C-CHD-C1D
6	R	201	CYC	ND-C1D-CHD-C4C
6	R	201	CYC	C2D-C1D-CHD-C4C
6	S	201	CYC	NA-C4A-CHB-C1B
6	S	201	CYC	C3A-C4A-CHB-C1B
6	S	201	CYC	C2C-C3C-CAC-CBC
6	S	201	CYC	C4C-C3C-CAC-CBC
6	S	201	CYC	ND-C1D-CHD-C4C
6	S	201	CYC	C2D-C1D-CHD-C4C
6	S	202	CYC	ND-C1D-CHD-C4C
6	S	202	CYC	C2D-C1D-CHD-C4C
6	T	201	CYC	NA-C4A-CHB-C1B
6	T	201	CYC	C3A-C4A-CHB-C1B
6	T	201	CYC	C2A-CAA-CBA-CGA
6	T	201	CYC	NC-C4C-CHD-C1D
6	T	201	CYC	ND-C1D-CHD-C4C
6	T	201	CYC	C2D-C1D-CHD-C4C
6	U	201	CYC	ND-C1D-CHD-C4C
6	U	201	CYC	C2D-C1D-CHD-C4C
6	U	202	CYC	NA-C4A-CHB-C1B
6	U	202	CYC	C3A-C4A-CHB-C1B
6	V	201	CYC	NA-C4A-CHB-C1B
6	V	201	CYC	C3A-C4A-CHB-C1B
6	V	201	CYC	C4C-C3C-CAC-CBC
6	V	201	CYC	ND-C1D-CHD-C4C
6	V	201	CYC	C2D-C1D-CHD-C4C
6	W	201	CYC	C4B-C3B-CAB-CBB
6	W	201	CYC	ND-C1D-CHD-C4C
6	W	201	CYC	C2D-C1D-CHD-C4C
6	W	202	CYC	ND-C1D-CHD-C4C
6	X	201	CYC	NA-C4A-CHB-C1B
6	X	201	CYC	C3A-C4A-CHB-C1B
6	X	201	CYC	NC-C4C-CHD-C1D
6	X	201	CYC	ND-C1D-CHD-C4C
6	X	201	CYC	C2D-C1D-CHD-C4C

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Mol	Chain	Res	Type	Atoms
6	Y	201	CYC	NA-C4A-CHB-C1B
6	Y	201	CYC	C3A-C4A-CHB-C1B
6	Y	201	CYC	ND-C1D-CHD-C4C
6	Y	202	CYC	NA-C4A-CHB-C1B
6	Y	202	CYC	C3A-C4A-CHB-C1B
6	Y	202	CYC	NC-C4C-CHD-C1D
6	Y	202	CYC	ND-C1D-CHD-C4C
6	Y	202	CYC	C2D-C1D-CHD-C4C
6	a	201	CYC	NA-C4A-CHB-C1B
6	a	201	CYC	C3A-C4A-CHB-C1B
6	a	201	CYC	NC-C4C-CHD-C1D
6	a	201	CYC	ND-C1D-CHD-C4C
6	a	201	CYC	C2D-C1D-CHD-C4C
6	J	201	CYC	C2B-C3B-CAB-CBB
6	Q	202	CYC	C2B-C3B-CAB-CBB
6	W	201	CYC	C2B-C3B-CAB-CBB
6	Y	202	CYC	C2B-C3B-CAB-CBB
6	H	201	CYC	C2B-C3B-CAB-CBB
6	V	201	CYC	C2B-C3B-CAB-CBB
6	I	201	CYC	C2B-C3B-CAB-CBB
6	B	202	CYC	C2A-CAA-CBA-CGA
6	H	201	CYC	C2A-CAA-CBA-CGA
6	O	202	CYC	C2A-CAA-CBA-CGA
6	W	201	CYC	NA-C4A-CHB-C1B
6	W	201	CYC	C2A-CAA-CBA-CGA
6	a	201	CYC	C2A-CAA-CBA-CGA
6	B	202	CYC	C3A-C4A-CHB-C1B
6	D	201	CYC	C3A-C4A-CHB-C1B
6	E	201	CYC	C3A-C4A-CHB-C1B
6	I	201	CYC	C3A-C4A-CHB-C1B
6	Q	202	CYC	C3A-C4A-CHB-C1B
6	L	201	CYC	NB-C1B-CHB-C4A
6	D	202	CYC	C3D-CAD-CBD-CGD
6	L	201	CYC	C3D-CAD-CBD-CGD
6	S	201	CYC	C3D-CAD-CBD-CGD
6	F	202	CYC	C4B-C3B-CAB-CBB
6	S	201	CYC	C2B-C3B-CAB-CBB
6	D	202	CYC	NB-C1B-CHB-C4A
6	Q	202	CYC	NB-C1B-CHB-C4A
6	B	201	CYC	C2A-CAA-CBA-CGA
6	N	201	CYC	C2A-CAA-CBA-CGA
6	O	201	CYC	C2A-CAA-CBA-CGA

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Mol	Chain	Res	Type	Atoms
6	F	202	CYC	C3A-C4A-CHB-C1B
6	U	201	CYC	C2B-C3B-CAB-CBB
6	L	201	CYC	C2B-C3B-CAB-CBB
6	H	201	CYC	NA-C4A-CHB-C1B
6	J	201	CYC	NA-C4A-CHB-C1B
6	J	202	CYC	NA-C4A-CHB-C1B
6	S	202	CYC	NA-C4A-CHB-C1B
6	U	201	CYC	NA-C4A-CHB-C1B
6	W	202	CYC	NA-C4A-CHB-C1B
6	S	202	CYC	C2B-C3B-CAB-CBB
6	H	201	CYC	C3A-C4A-CHB-C1B
6	J	201	CYC	C3A-C4A-CHB-C1B
6	J	202	CYC	C3A-C4A-CHB-C1B
6	R	201	CYC	C3A-C4A-CHB-C1B
6	S	202	CYC	C3A-C4A-CHB-C1B
6	U	201	CYC	C3A-C4A-CHB-C1B
6	W	201	CYC	C3A-C4A-CHB-C1B
6	W	202	CYC	C3A-C4A-CHB-C1B
6	D	202	CYC	C2B-C1B-CHB-C4A
6	E	201	CYC	C2B-C1B-CHB-C4A
6	F	201	CYC	C3D-CAD-CBD-CGD
6	Q	202	CYC	C3D-CAD-CBD-CGD
6	D	201	CYC	C2A-CAA-CBA-CGA
6	J	201	CYC	C2A-CAA-CBA-CGA
6	P	201	CYC	C2A-CAA-CBA-CGA
6	Q	201	CYC	C2A-CAA-CBA-CGA
6	W	202	CYC	C2A-CAA-CBA-CGA
6	a	201	CYC	C2B-C3B-CAB-CBB
6	B	202	CYC	C2B-C3B-CAB-CBB
6	F	201	CYC	NC-C4C-CHD-C1D
6	V	201	CYC	NC-C4C-CHD-C1D
6	C	201	CYC	C3D-CAD-CBD-CGD
6	I	201	CYC	C2C-C3C-CAC-CBC
6	L	201	CYC	C2C-C3C-CAC-CBC
6	V	201	CYC	C2C-C3C-CAC-CBC
6	K	201	CYC	C2B-C1B-CHB-C4A
6	K	201	CYC	C2B-C3B-CAB-CBB
6	N	201	CYC	C2B-C3B-CAB-CBB
6	E	201	CYC	C2B-C3B-CAB-CBB
6	H	202	CYC	C2A-CAA-CBA-CGA
6	J	202	CYC	C2A-CAA-CBA-CGA
6	I	201	CYC	C4B-C3B-CAB-CBB

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Mol	Chain	Res	Type	Atoms
6	V	201	CYC	C4B-C3B-CAB-CBB
6	Y	202	CYC	C4B-C3B-CAB-CBB
6	D	202	CYC	C2B-C3B-CAB-CBB
6	C	201	CYC	C4C-C3C-CAC-CBC
6	L	202	CYC	C4C-C3C-CAC-CBC
6	O	202	CYC	C4C-C3C-CAC-CBC
6	L	202	CYC	C2A-CAA-CBA-CGA
6	T	201	CYC	C3D-CAD-CBD-CGD
6	B	201	CYC	NC-C4C-CHD-C1D
6	O	201	CYC	NC-C4C-CHD-C1D
6	G	201	CYC	C3D-CAD-CBD-CGD
6	J	201	CYC	C2C-C3C-CAC-CBC
6	L	202	CYC	C2C-C3C-CAC-CBC
6	F	201	CYC	C2B-C3B-CAB-CBB
6	W	201	CYC	C1A-C2A-CAA-CBA
6	I	201	CYC	C2B-C1B-CHB-C4A
6	Y	201	CYC	C2A-CAA-CBA-CGA
6	P	201	CYC	C3D-CAD-CBD-CGD
6	D	202	CYC	CAA-CBA-CGA-O1A
6	W	202	CYC	CAD-CBD-CGD-O1D
6	E	201	CYC	CAA-CBA-CGA-O1A
6	N	201	CYC	CAA-CBA-CGA-O2A
6	a	201	CYC	CAA-CBA-CGA-O2A
6	O	201	CYC	CAA-CBA-CGA-O1A
6	Q	202	CYC	CAA-CBA-CGA-O2A
6	B	201	CYC	C2B-C3B-CAB-CBB
6	B	201	CYC	CAA-CBA-CGA-O2A
6	B	201	CYC	CAD-CBD-CGD-O2D
6	C	201	CYC	CAA-CBA-CGA-O2A
6	N	201	CYC	CAA-CBA-CGA-O1A
6	P	201	CYC	CAA-CBA-CGA-O2A
6	Q	202	CYC	CAA-CBA-CGA-O1A
6	X	201	CYC	CAA-CBA-CGA-O1A
6	U	202	CYC	CAD-CBD-CGD-O1D
6	B	201	CYC	CAA-CBA-CGA-O1A
6	B	201	CYC	CAD-CBD-CGD-O1D
6	B	202	CYC	CAA-CBA-CGA-O1A
6	B	202	CYC	CAA-CBA-CGA-O2A
6	K	201	CYC	CAA-CBA-CGA-O1A
6	U	201	CYC	CAA-CBA-CGA-O1A
6	E	201	CYC	NB-C1B-CHB-C4A
6	P	201	CYC	CAA-CBA-CGA-O1A

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Mol	Chain	Res	Type	Atoms
6	R	201	CYC	CAA-CBA-CGA-O2A
6	E	201	CYC	CAA-CBA-CGA-O2A
6	K	201	CYC	CAA-CBA-CGA-O2A
6	O	201	CYC	CAD-CBD-CGD-O1D
6	R	201	CYC	CAA-CBA-CGA-O1A
6	O	201	CYC	CAA-CBA-CGA-O2A
6	S	201	CYC	CAA-CBA-CGA-O2A
6	C	201	CYC	CAA-CBA-CGA-O1A
6	D	202	CYC	CAA-CBA-CGA-O2A
6	W	201	CYC	CAA-CBA-CGA-O1A
6	S	201	CYC	CAA-CBA-CGA-O1A
6	U	202	CYC	CAA-CBA-CGA-O2A
6	F	201	CYC	CAA-CBA-CGA-O1A
6	W	202	CYC	CAD-CBD-CGD-O2D
6	F	201	CYC	CAA-CBA-CGA-O2A
6	U	202	CYC	CAA-CBA-CGA-O1A
6	Y	201	CYC	CAA-CBA-CGA-O2A
6	W	202	CYC	C2B-C3B-CAB-CBB
6	W	201	CYC	CAA-CBA-CGA-O2A
6	S	201	CYC	NC-C4C-CHD-C1D
6	O	202	CYC	CAA-CBA-CGA-O2A
6	X	201	CYC	CAA-CBA-CGA-O2A
6	Y	201	CYC	CAA-CBA-CGA-O1A
6	Y	201	CYC	CAD-CBD-CGD-O2D
6	a	201	CYC	CAA-CBA-CGA-O1A
6	N	201	CYC	CAD-CBD-CGD-O2D
6	S	202	CYC	C4B-C3B-CAB-CBB
6	Y	201	CYC	CAD-CBD-CGD-O1D
6	D	201	CYC	CAA-CBA-CGA-O2A
6	Y	202	CYC	CAA-CBA-CGA-O2A
6	a	201	CYC	CAD-CBD-CGD-O2D
6	I	201	CYC	CAA-CBA-CGA-O2A
6	Q	201	CYC	CAA-CBA-CGA-O1A
6	U	202	CYC	CAD-CBD-CGD-O2D
6	J	201	CYC	C1A-C2A-CAA-CBA
6	Q	201	CYC	CAA-CBA-CGA-O2A
6	Y	202	CYC	CAD-CBD-CGD-O2D
6	Q	202	CYC	C2B-C1B-CHB-C4A
6	D	201	CYC	CAA-CBA-CGA-O1A
6	H	202	CYC	CAA-CBA-CGA-O1A
6	H	202	CYC	CAA-CBA-CGA-O2A
6	H	202	CYC	CAD-CBD-CGD-O1D

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Mol	Chain	Res	Type	Atoms
6	O	202	CYC	CAA-CBA-CGA-O1A
6	U	202	CYC	C2A-CAA-CBA-CGA
6	G	201	CYC	CAA-CBA-CGA-O2A
6	J	202	CYC	CAD-CBD-CGD-O1D
6	O	201	CYC	CAD-CBD-CGD-O2D
6	a	201	CYC	CAD-CBD-CGD-O1D
6	N	201	CYC	C3D-CAD-CBD-CGD
6	N	201	CYC	CAD-CBD-CGD-O1D
6	U	201	CYC	CAA-CBA-CGA-O2A
6	W	201	CYC	CAD-CBD-CGD-O2D
6	R	201	CYC	C2B-C1B-CHB-C4A
6	L	202	CYC	CAA-CBA-CGA-O2A
6	Y	202	CYC	CAA-CBA-CGA-O1A
6	L	202	CYC	CAA-CBA-CGA-O1A
6	S	202	CYC	CAA-CBA-CGA-O2A
6	B	202	CYC	CAD-CBD-CGD-O2D
6	G	201	CYC	CAA-CBA-CGA-O1A
6	S	202	CYC	CAA-CBA-CGA-O1A
6	I	201	CYC	CAA-CBA-CGA-O1A
6	J	201	CYC	CAD-CBD-CGD-O2D
6	Y	202	CYC	CAD-CBD-CGD-O1D
6	W	201	CYC	CAD-CBD-CGD-O1D
6	B	202	CYC	CAD-CBD-CGD-O1D
6	Y	202	CYC	C3D-CAD-CBD-CGD
6	Q	202	CYC	C2A-CAA-CBA-CGA
6	J	202	CYC	CAD-CBD-CGD-O2D
6	H	202	CYC	CAD-CBD-CGD-O2D
6	J	201	CYC	CAA-CBA-CGA-O2A
6	Y	202	CYC	NB-C1B-CHB-C4A
6	D	201	CYC	CAD-CBD-CGD-O2D
6	J	201	CYC	CAD-CBD-CGD-O1D
6	F	202	CYC	C2C-C3C-CAC-CBC
6	K	201	CYC	C2C-C3C-CAC-CBC
6	J	201	CYC	CAA-CBA-CGA-O1A
6	X	201	CYC	CAD-CBD-CGD-O2D
6	U	201	CYC	C2A-CAA-CBA-CGA
6	K	201	CYC	CAD-CBD-CGD-O2D

There are no ring outliers.

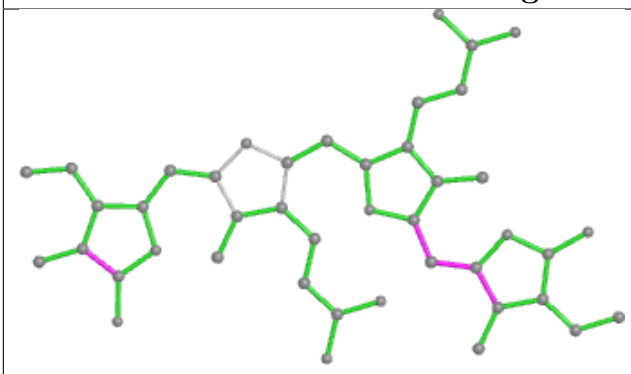
36 monomers are involved in 261 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
6	V	201	CYC	7	0
6	a	201	CYC	4	0
6	X	201	CYC	6	0
6	H	202	CYC	10	0
6	W	201	CYC	11	0
6	U	202	CYC	6	0
6	F	201	CYC	7	0
6	K	201	CYC	5	0
6	I	201	CYC	8	0
6	Y	202	CYC	8	0
6	Q	202	CYC	7	0
6	O	202	CYC	4	0
6	J	201	CYC	8	0
6	L	202	CYC	4	0
6	T	201	CYC	5	0
6	U	201	CYC	6	0
6	D	202	CYC	7	0
6	G	201	CYC	8	0
6	B	201	CYC	6	0
6	N	201	CYC	5	0
6	E	201	CYC	2	0
6	O	201	CYC	5	0
6	C	201	CYC	8	0
6	S	202	CYC	4	0
6	S	201	CYC	5	0
6	R	201	CYC	4	0
6	W	202	CYC	9	0
6	F	202	CYC	9	0
6	P	201	CYC	10	0
6	L	201	CYC	5	0
6	Q	201	CYC	14	0
6	Y	201	CYC	6	0
6	H	201	CYC	16	0
6	D	201	CYC	14	0
6	B	202	CYC	9	0
6	J	202	CYC	9	0

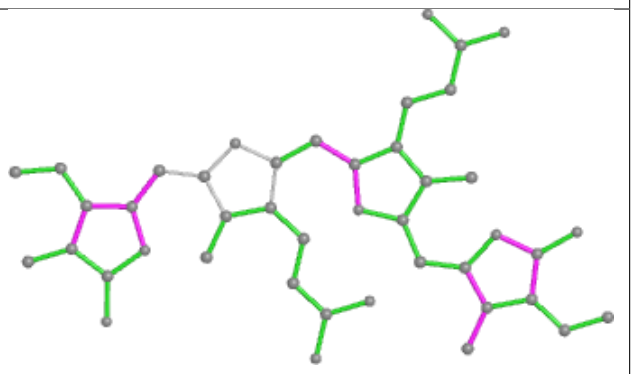
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring

in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

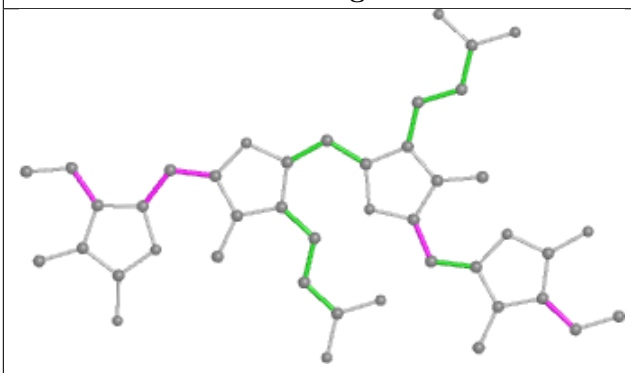
Ligand CYC V 201



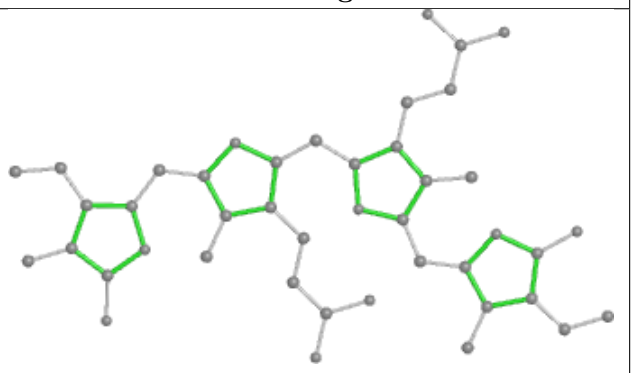
Bond lengths



Bond angles

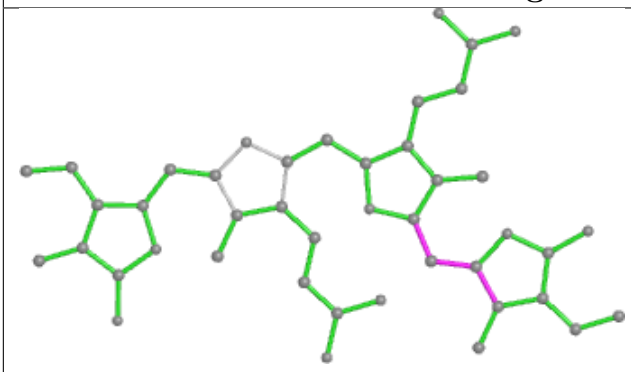


Torsions

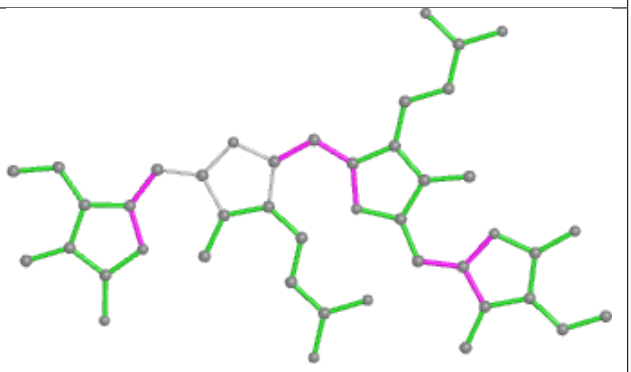


Rings

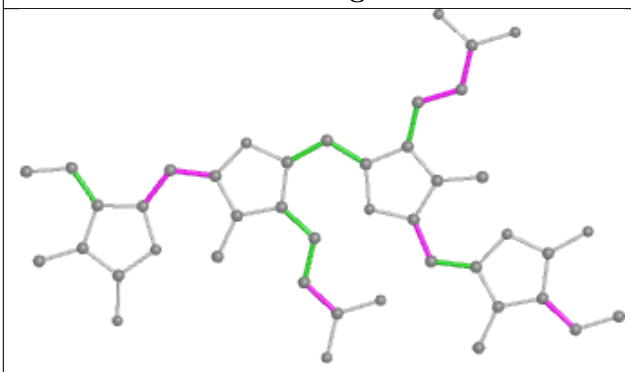
Ligand CYC a 201



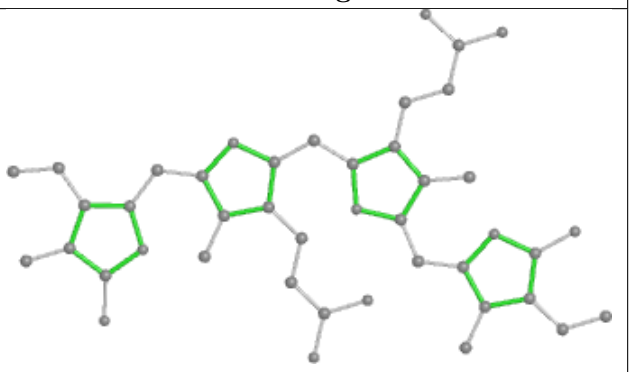
Bond lengths



Bond angles

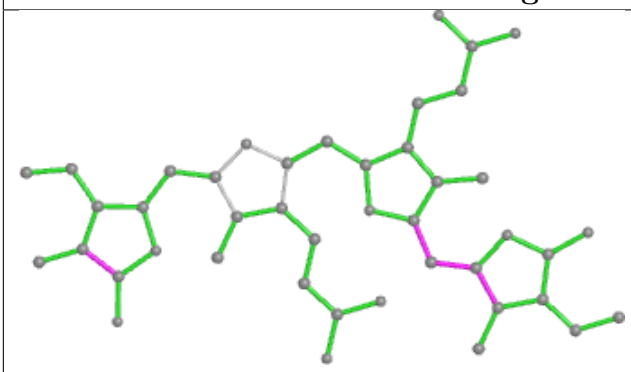


Torsions

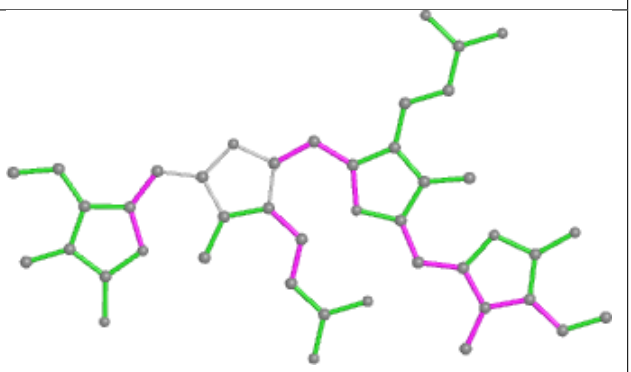


Rings

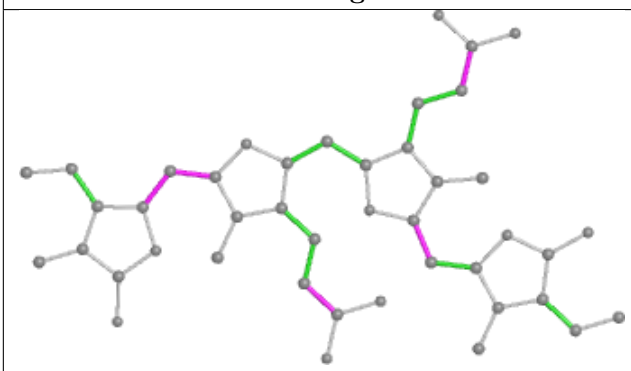
Ligand CYC X 201



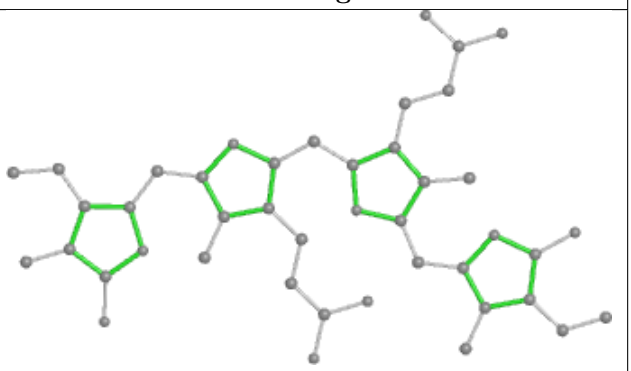
Bond lengths



Bond angles

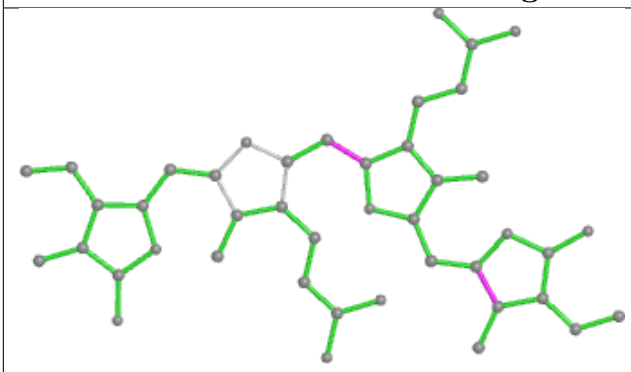


Torsions

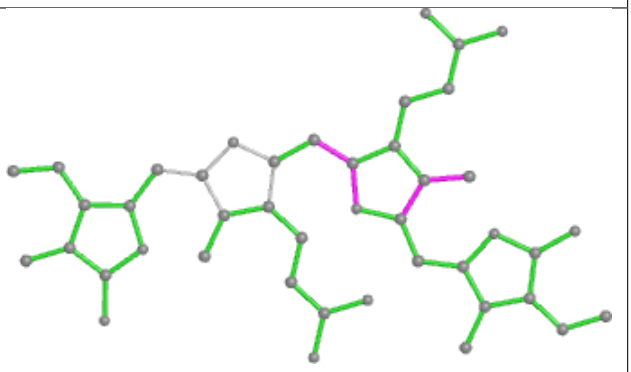


Rings

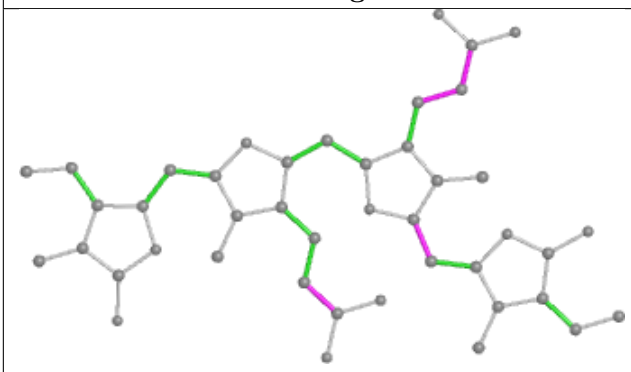
Ligand CYC H 202



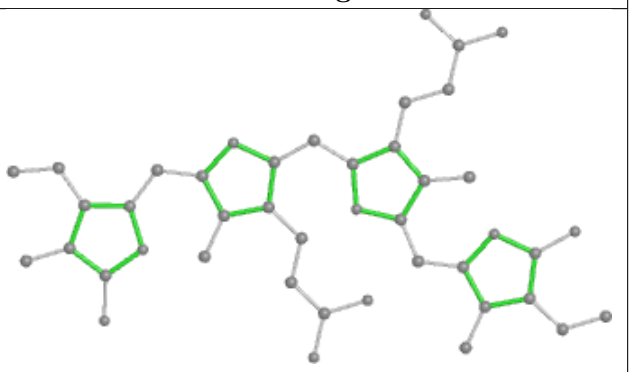
Bond lengths



Bond angles

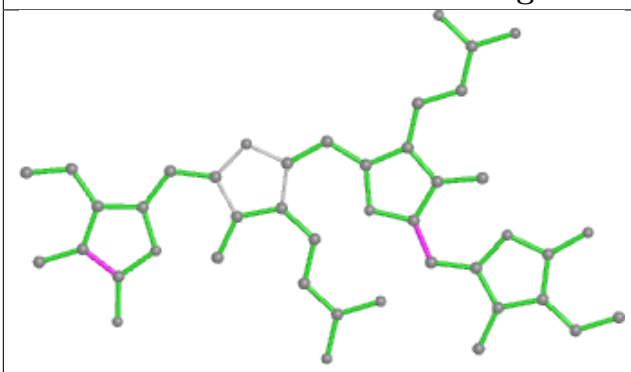


Torsions

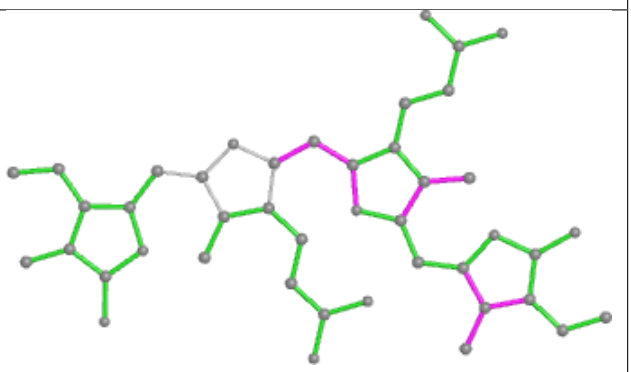


Rings

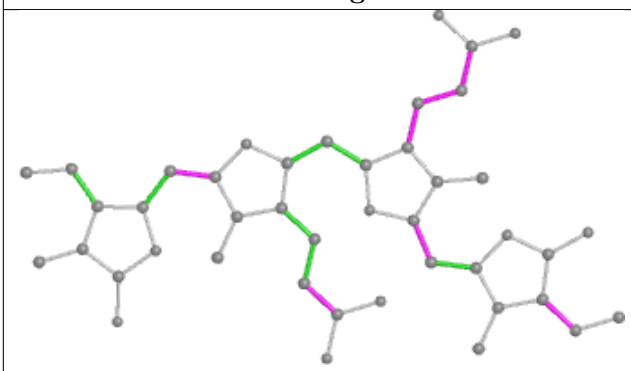
Ligand CYC W 201



Bond lengths



Bond angles



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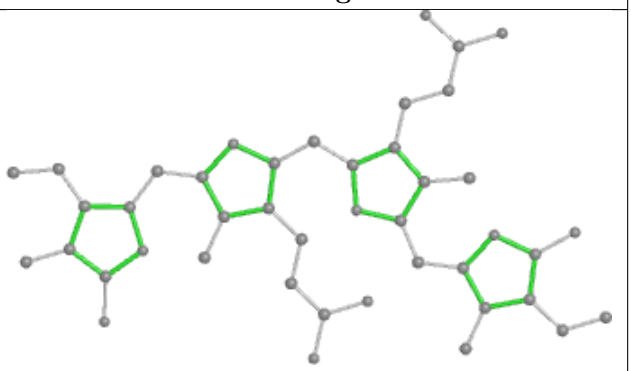
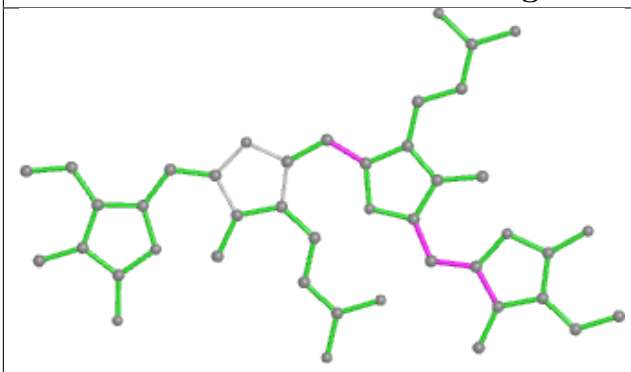


Rings

Ligand CYC U 202



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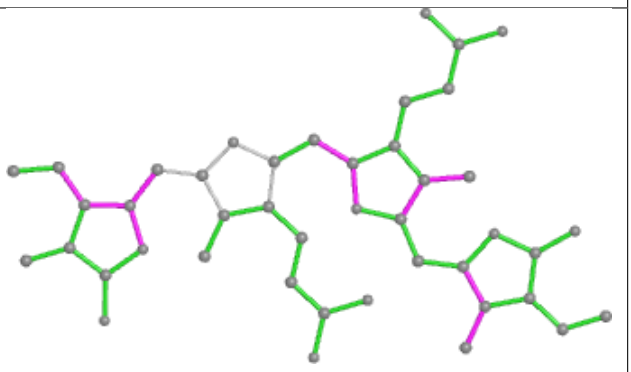
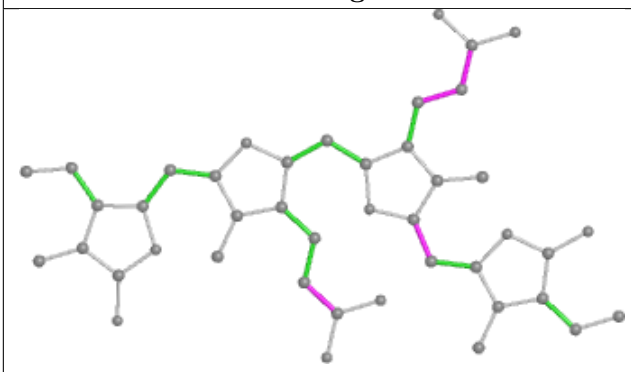


Bond angles



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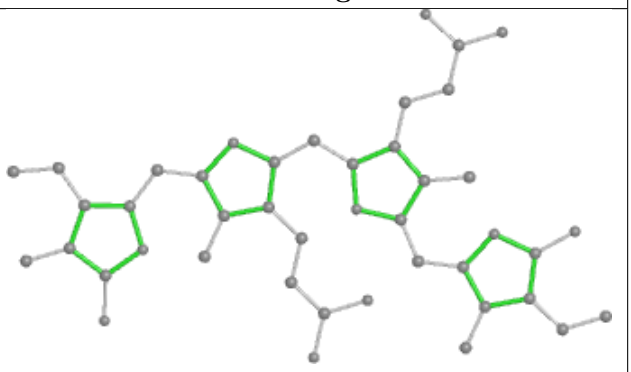

Rings

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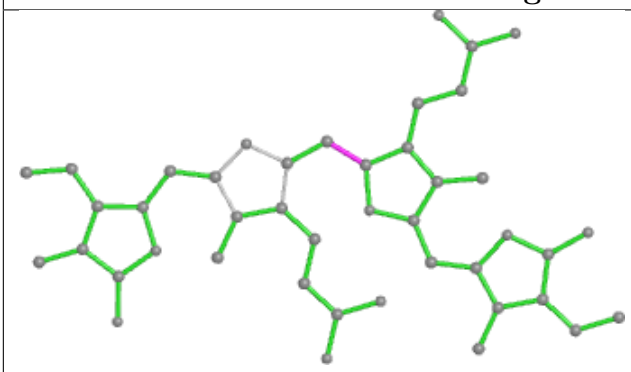

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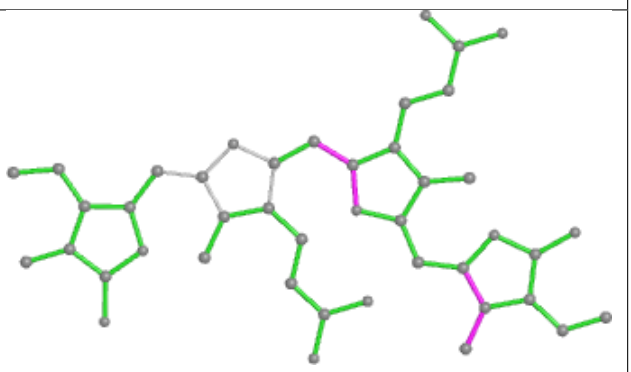

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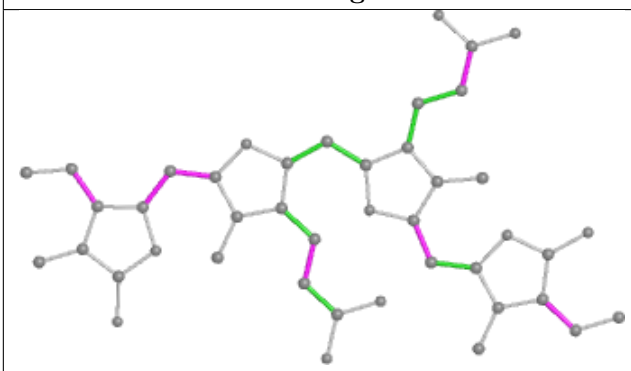

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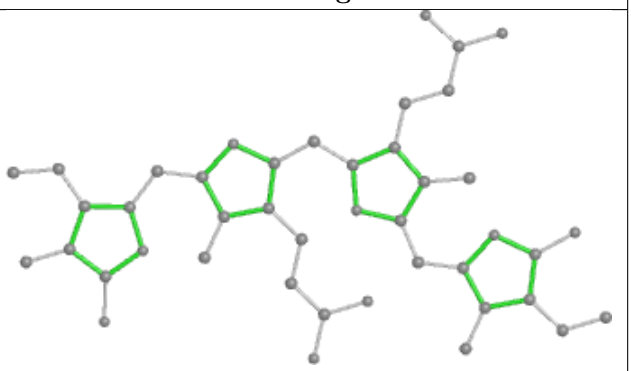

Rings

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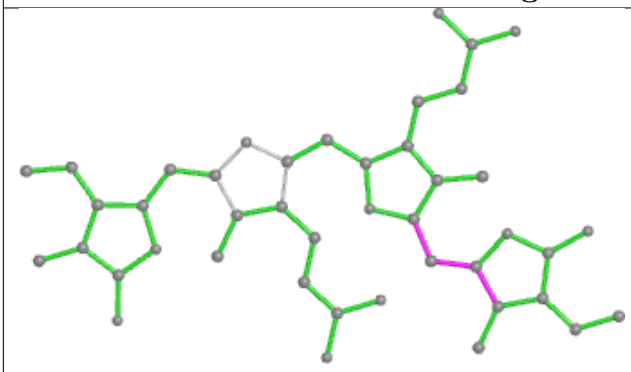

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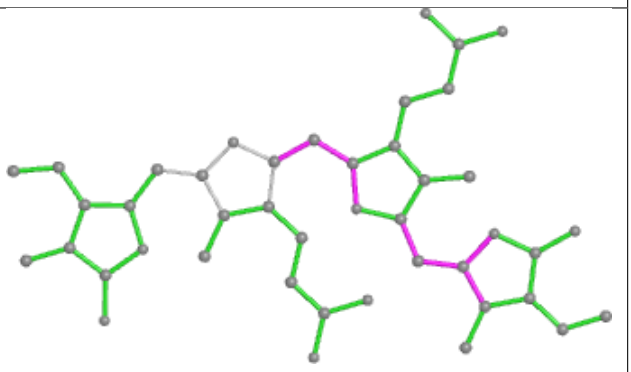

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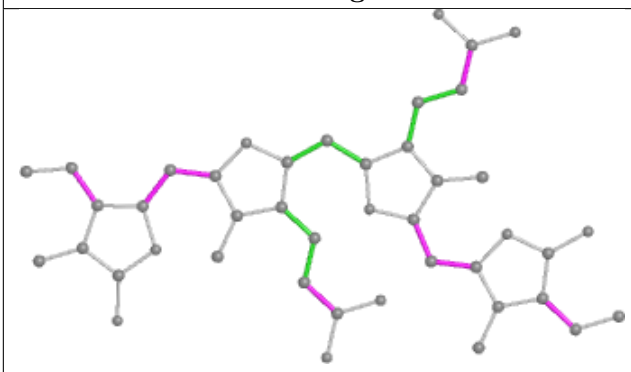

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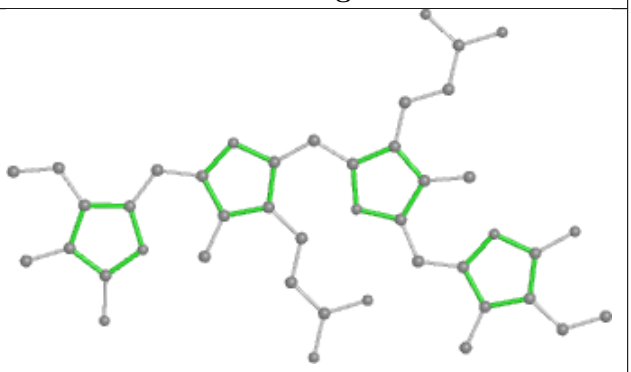

Rings

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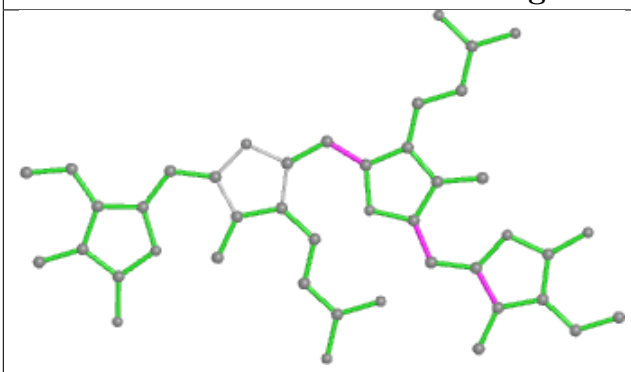

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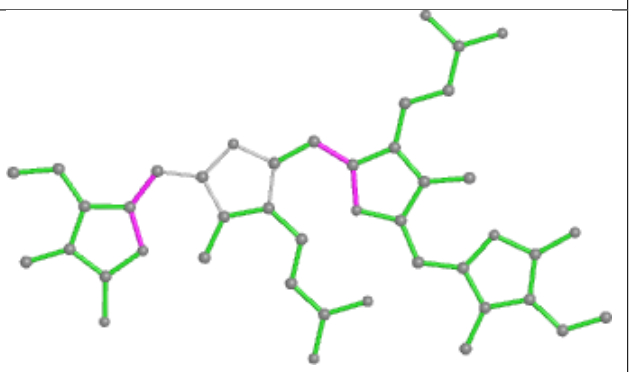

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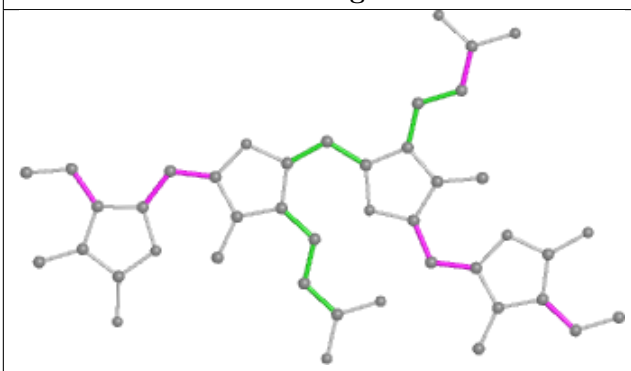

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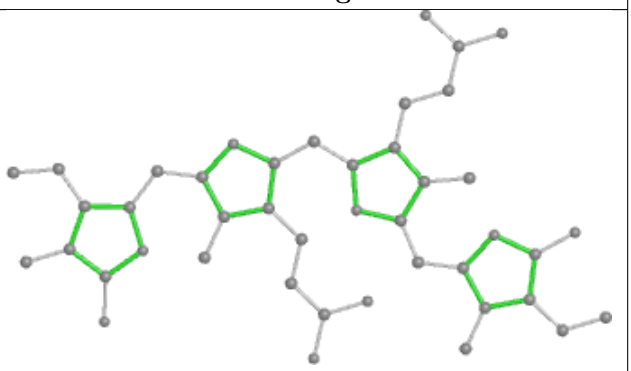

Rings

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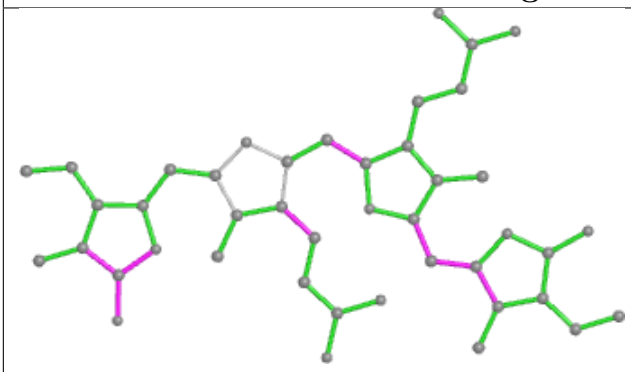

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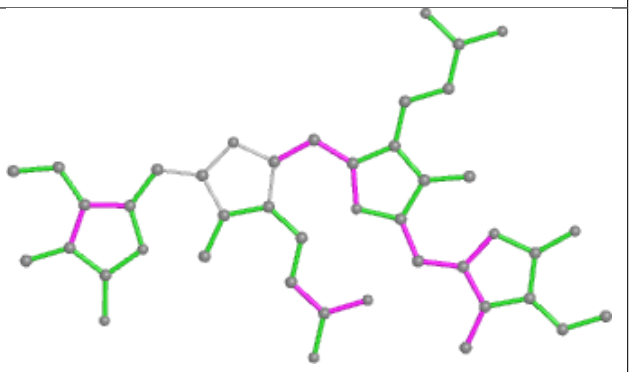

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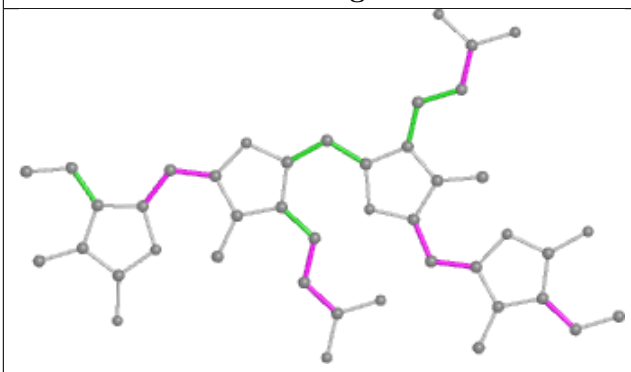

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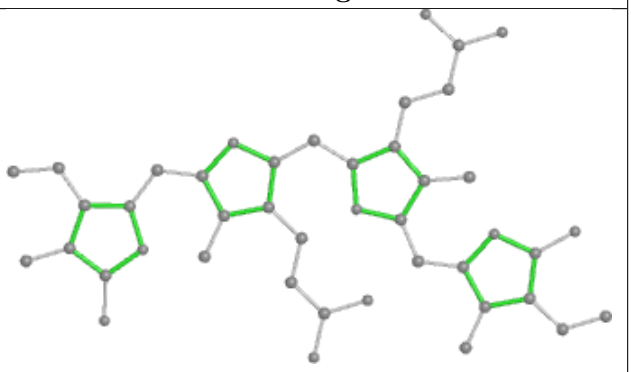
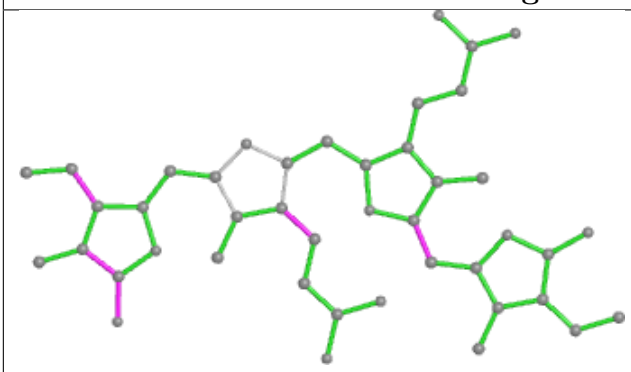


Rings

Ligand CYC Q 202



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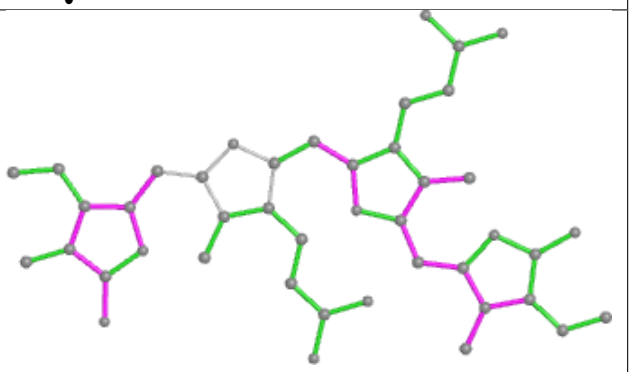

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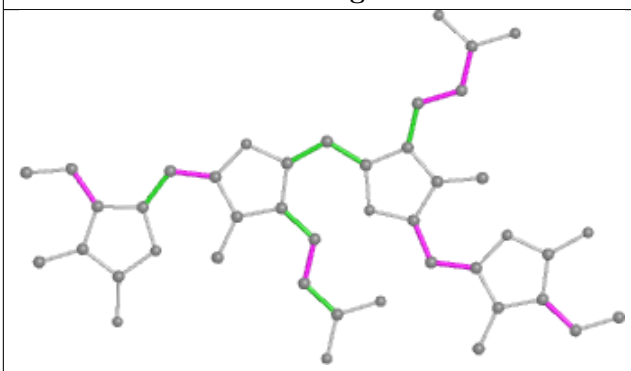

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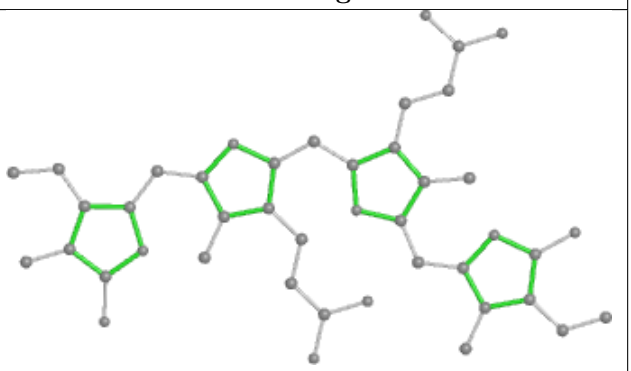

Rings

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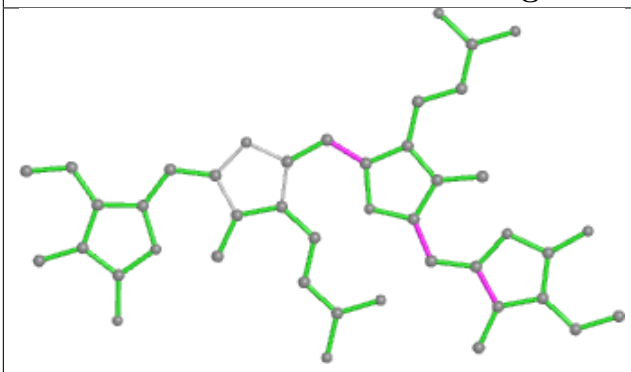

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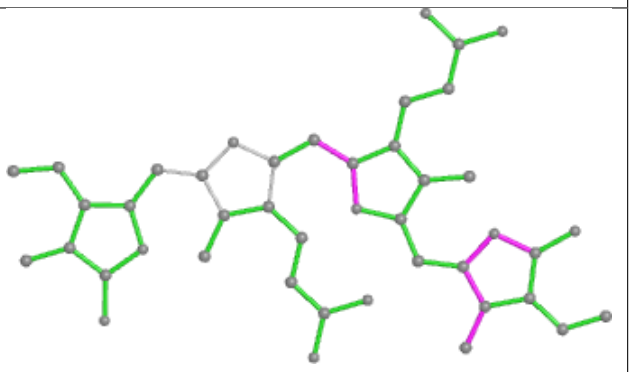

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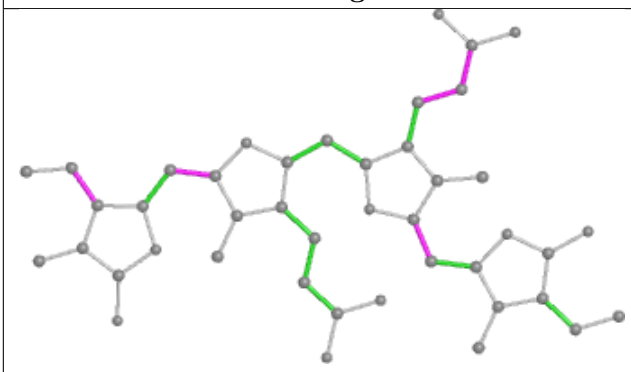

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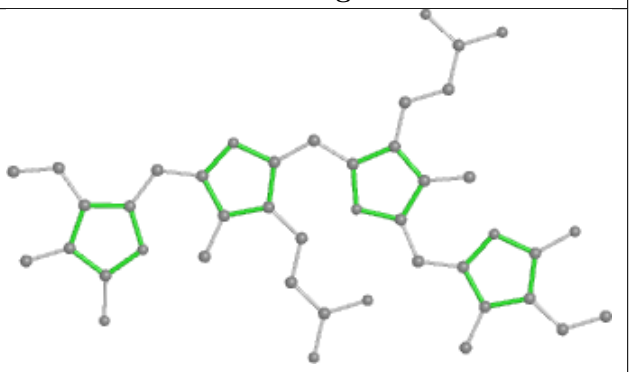
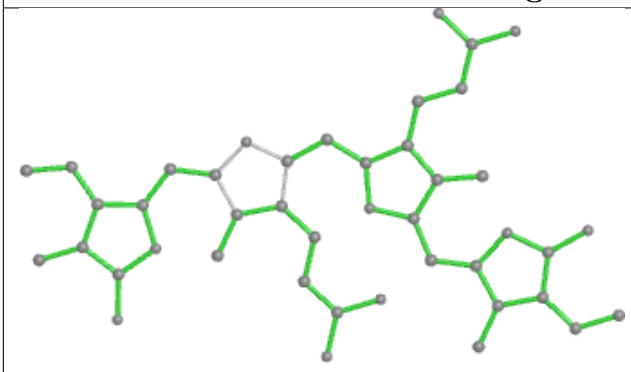


Rings

Ligand CYC J 201



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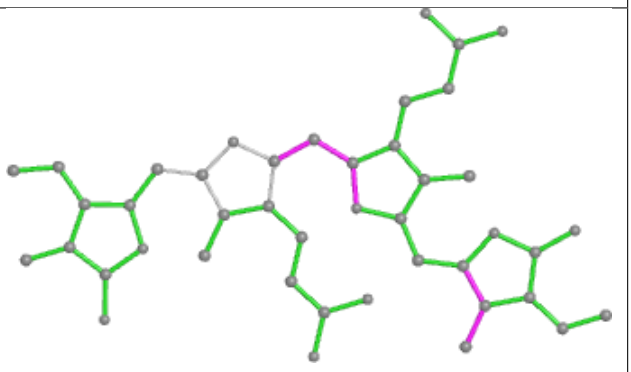

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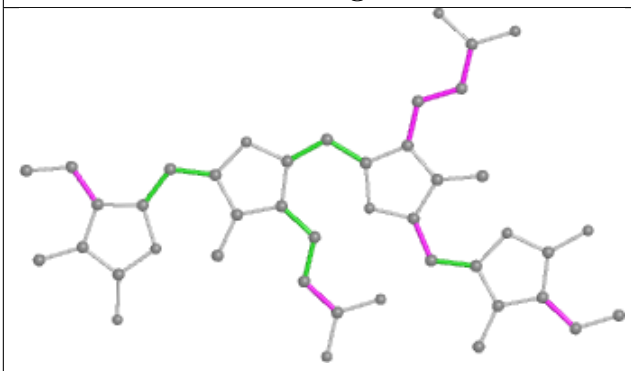

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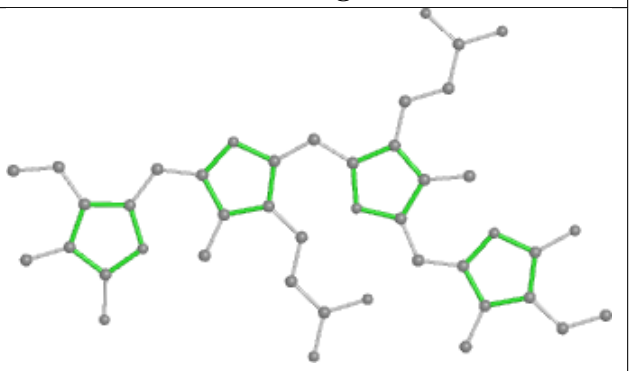
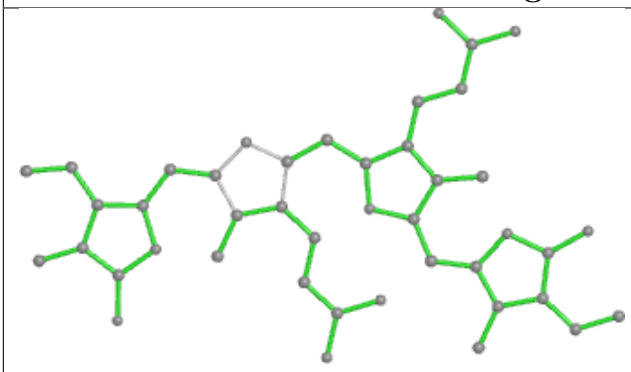


Rings

Ligand CYC L 202



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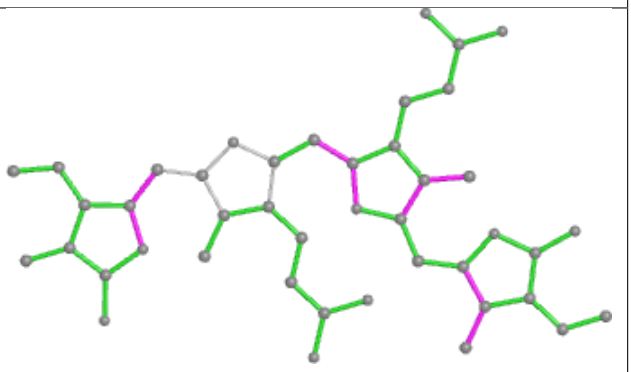
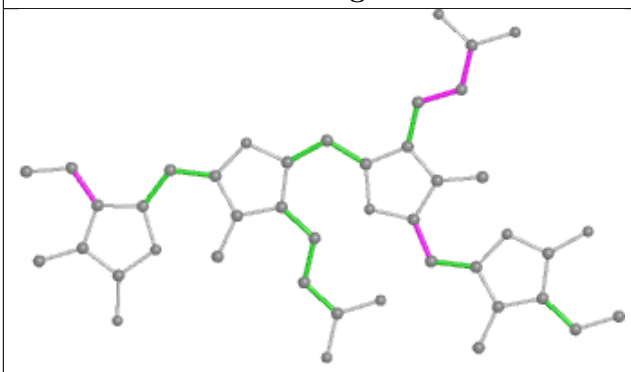


Bond angles



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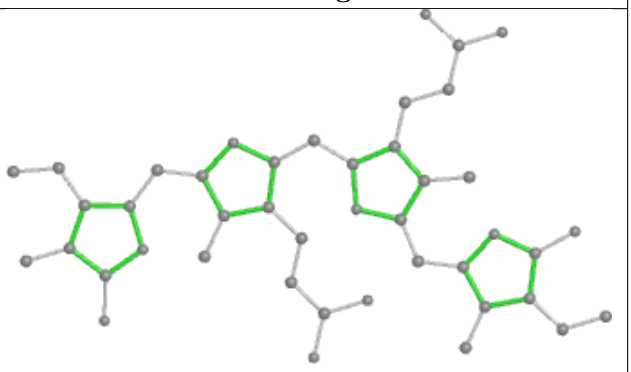
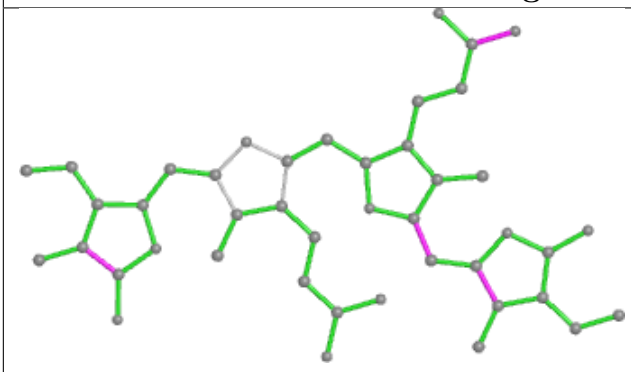


Rings

Ligand CYC T 201



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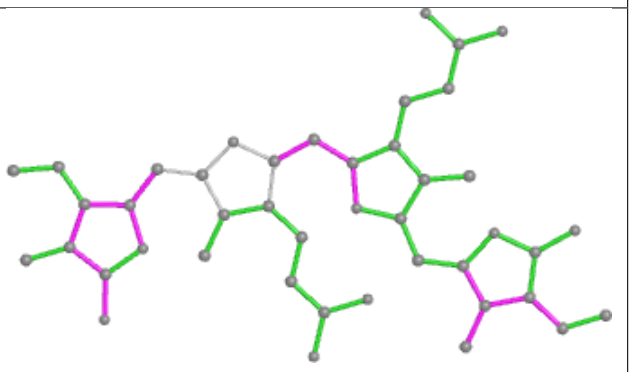
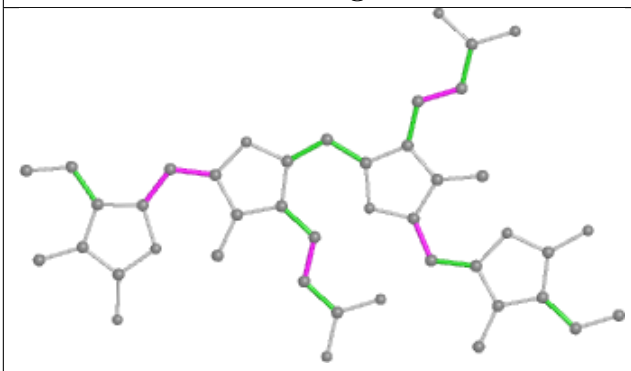


Bond angles



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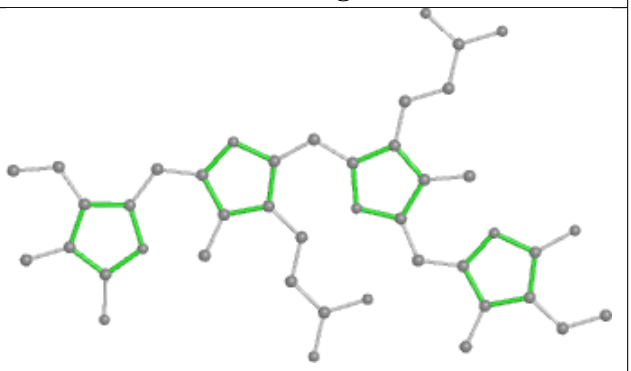
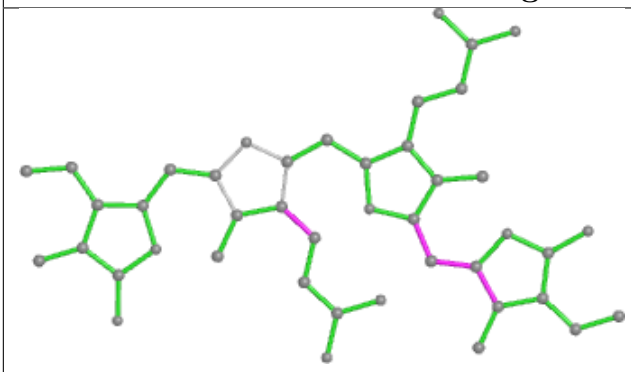


Rings

Ligand CYC U 201



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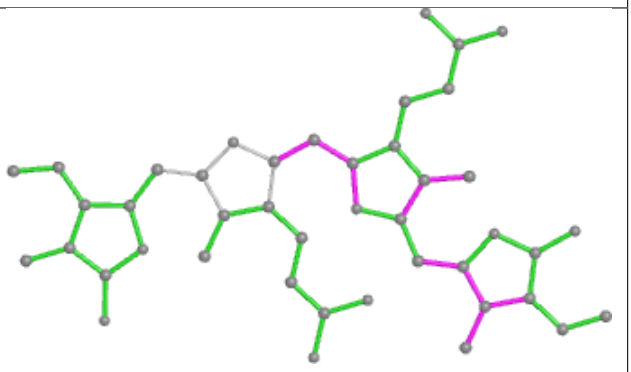

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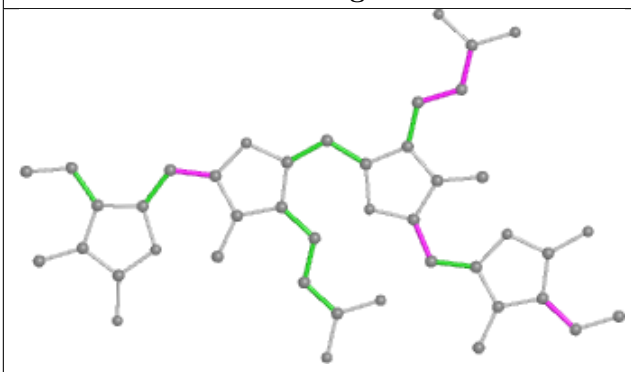

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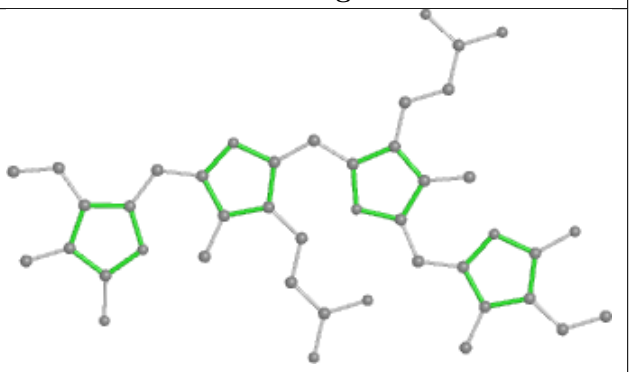
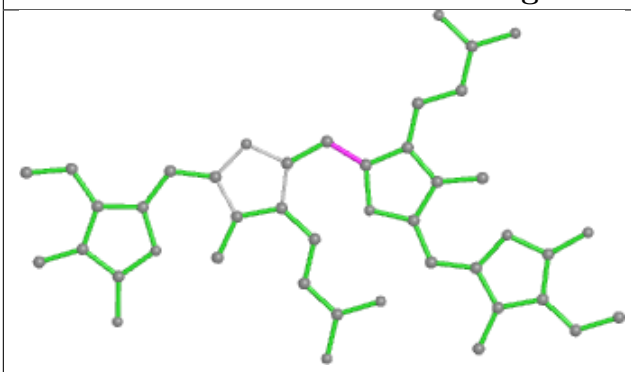


Rings

Ligand CYC D 202



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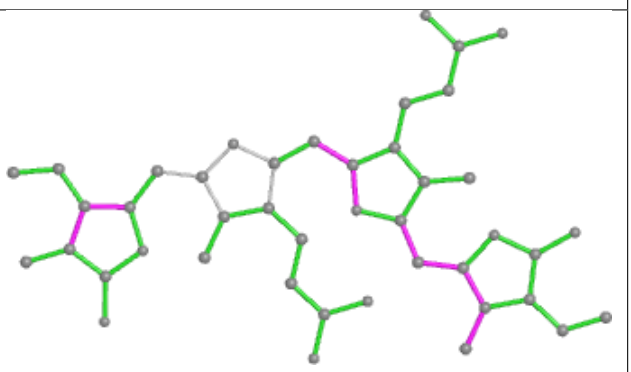
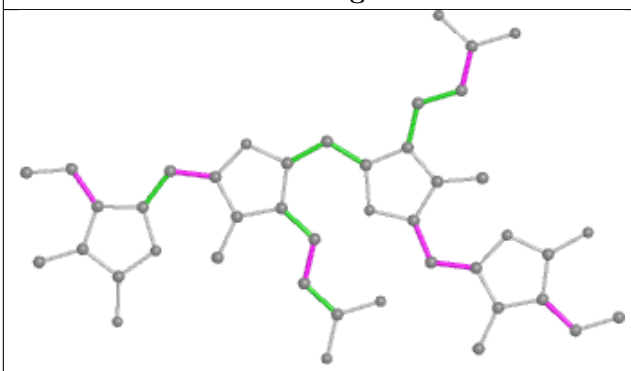


Bond angles



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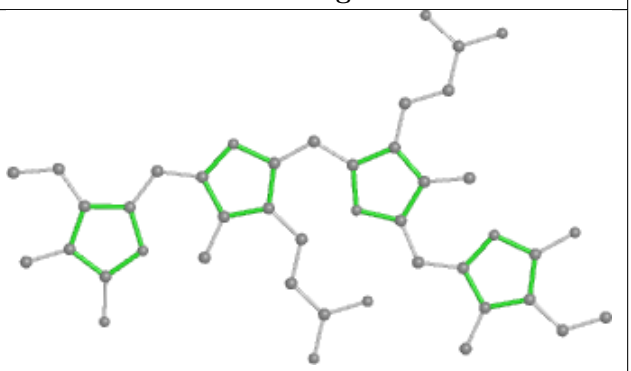
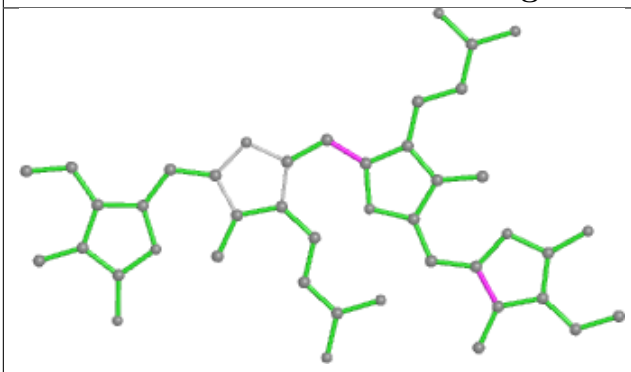
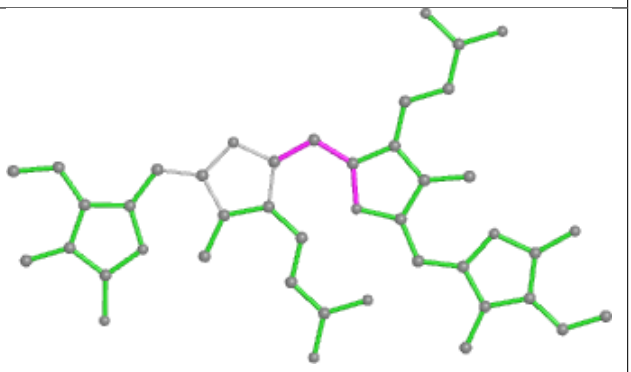


Rings

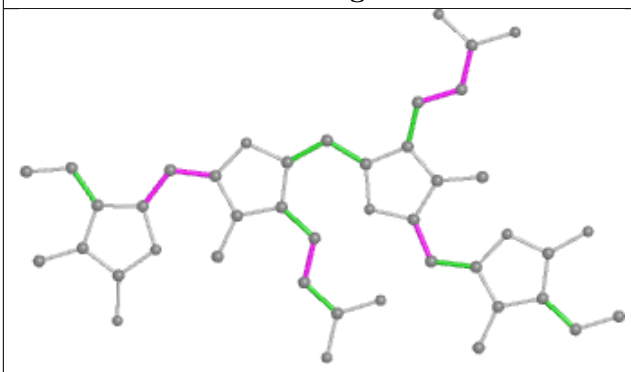
Ligand CYC G 201



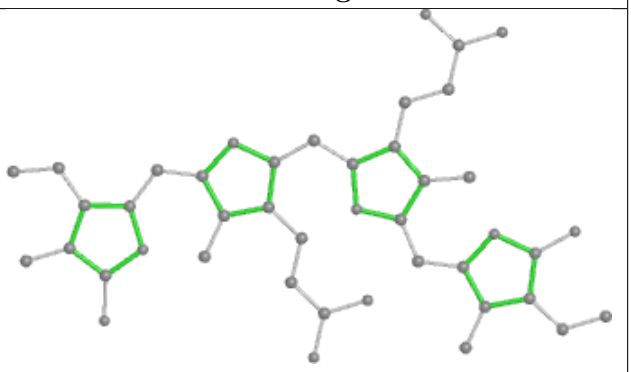
Bond lengths



Bond angles

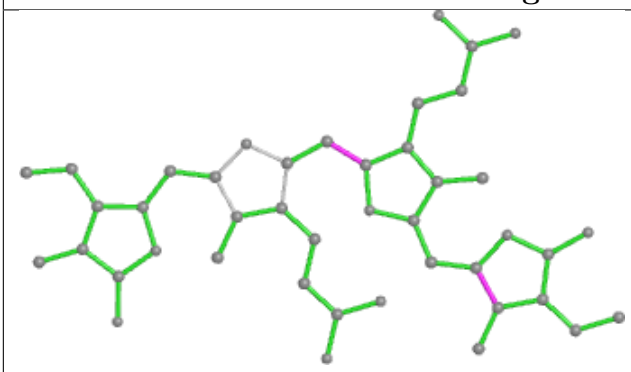


Torsions

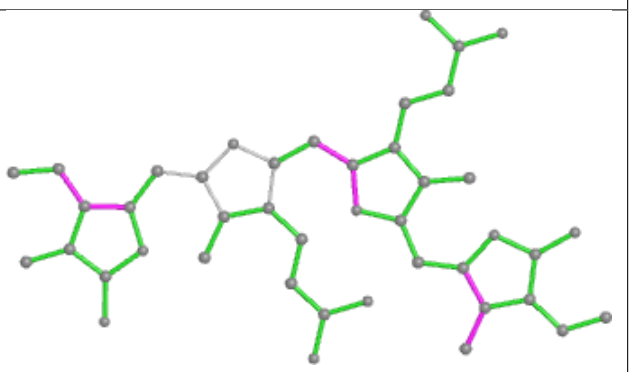


Rings

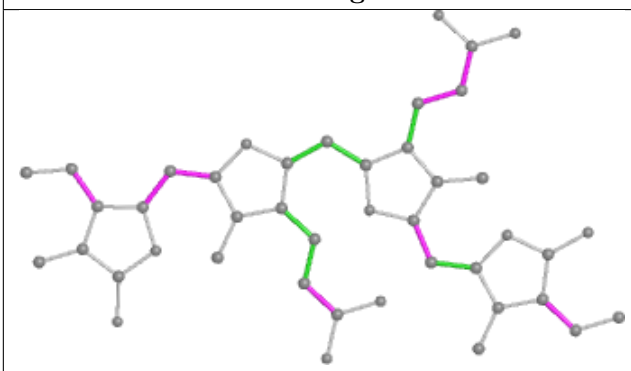
Ligand CYC B 201



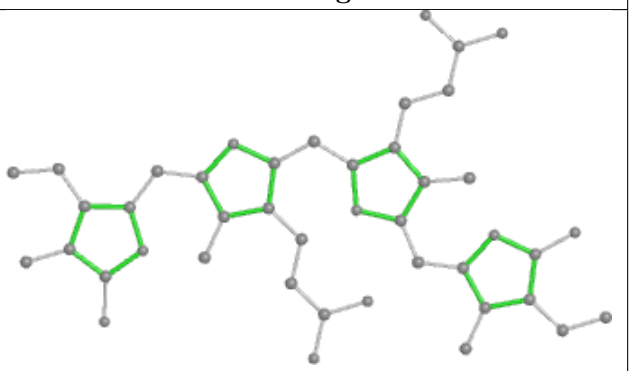
Bond lengths



Bond angles

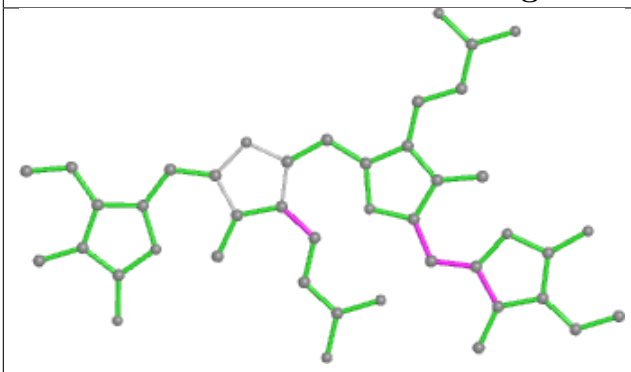


Torsions

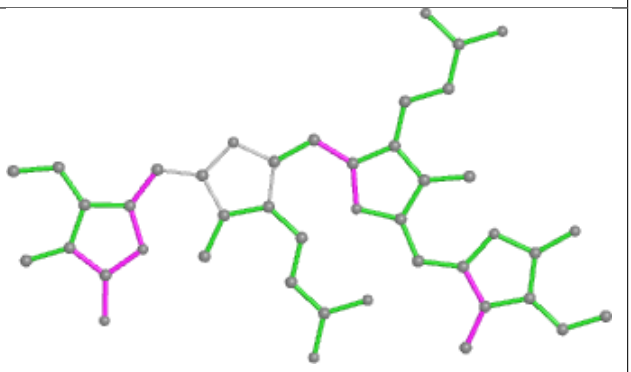


Rings

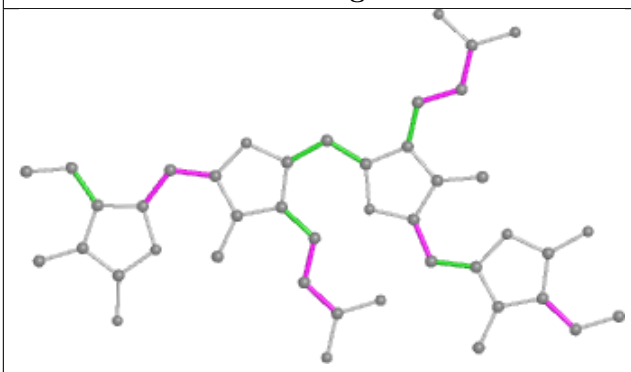
Ligand CYC N 201



Bond lengths



Bond angles



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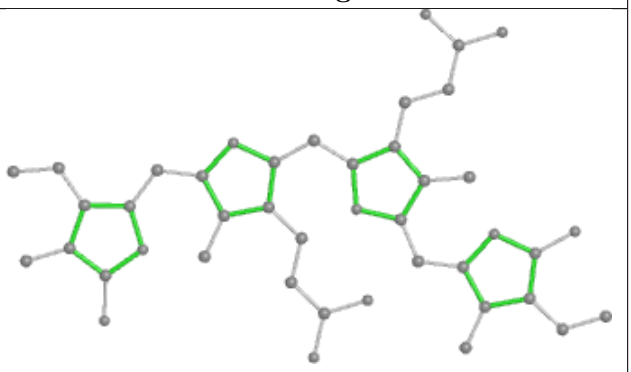
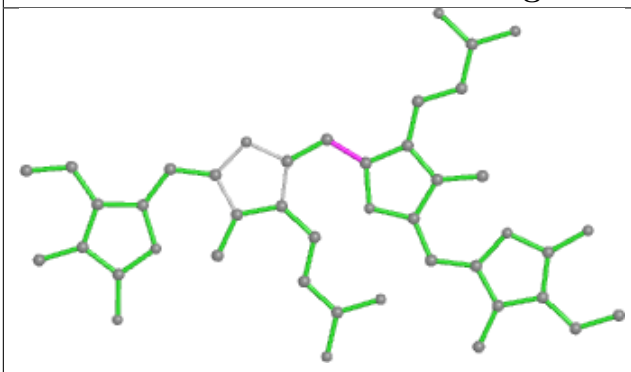


Rings

Ligand CYC E 201



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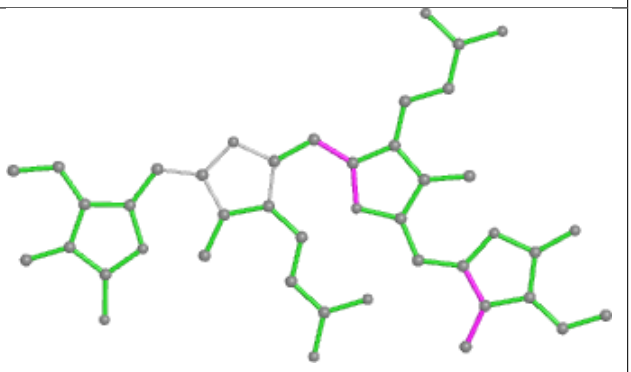
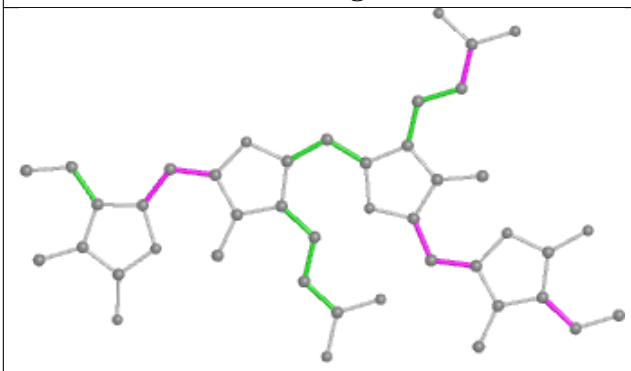


Bond angles



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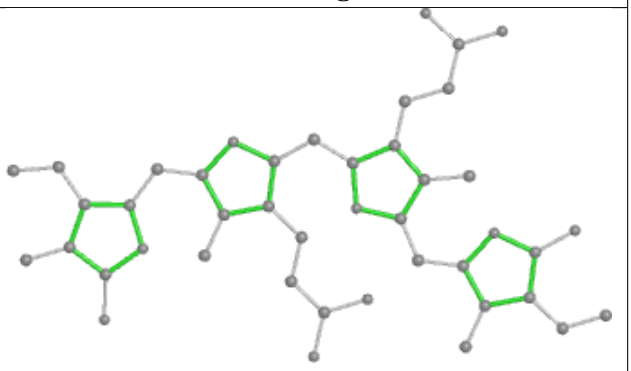
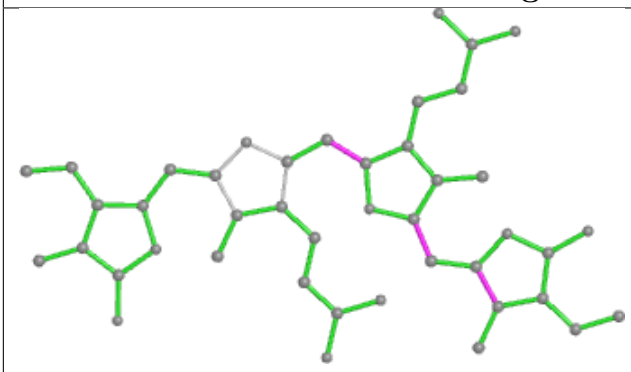


Rings

Ligand CYC O 201



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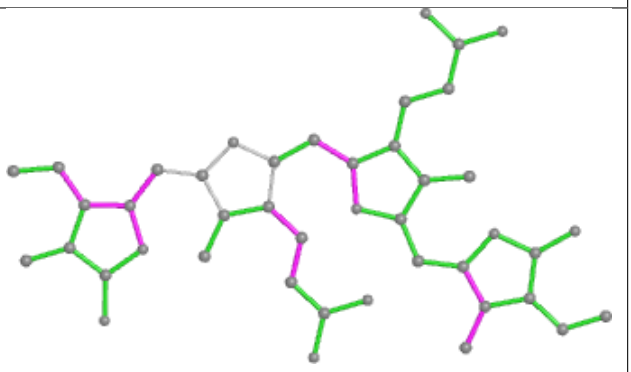

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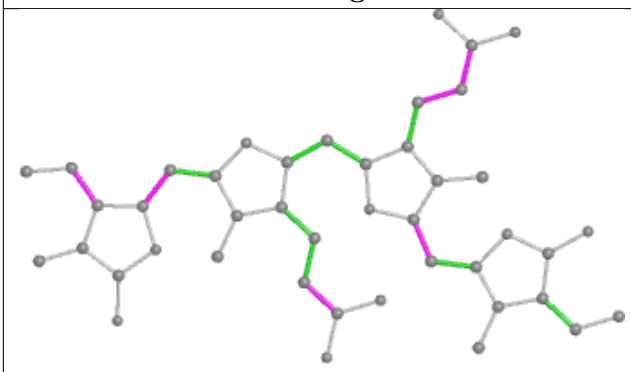

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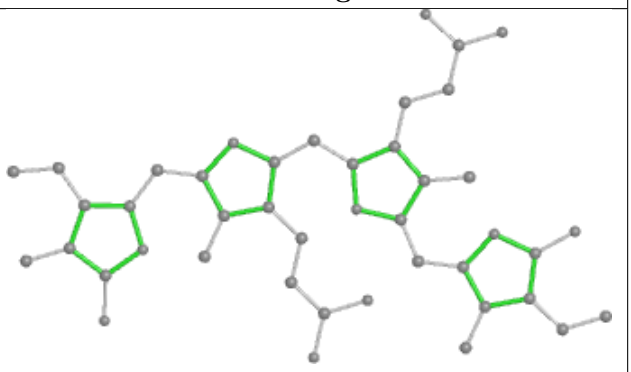
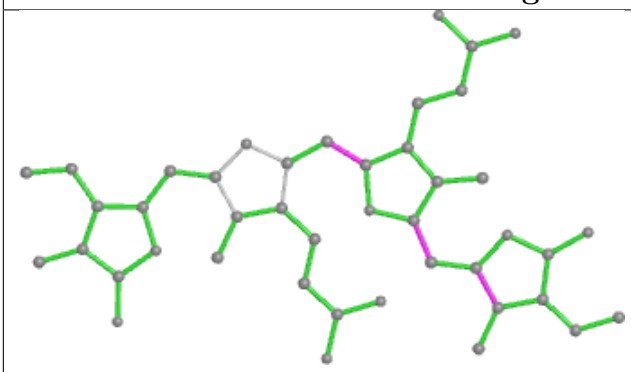


Rings

Ligand CYC C 201



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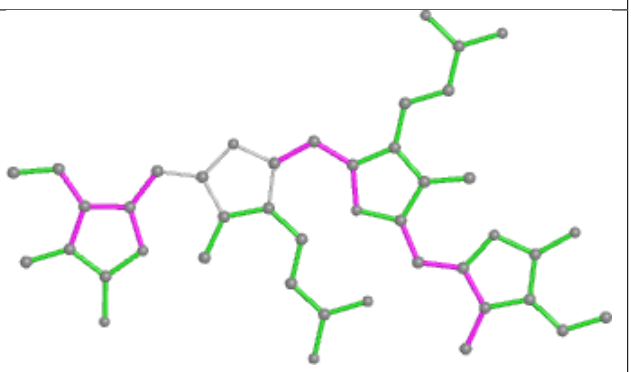

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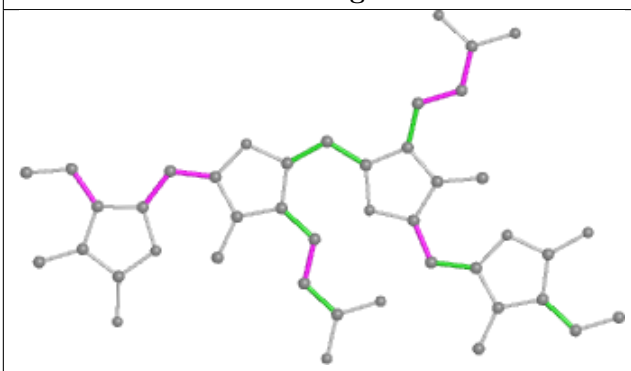

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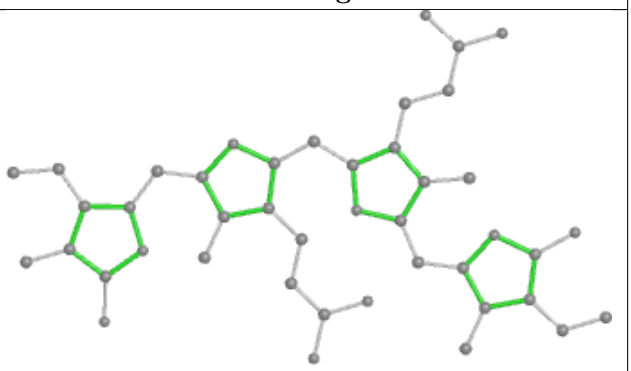
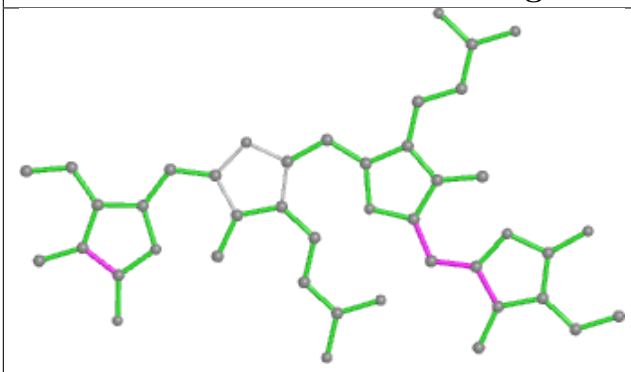


Rings

Ligand CYC S 202



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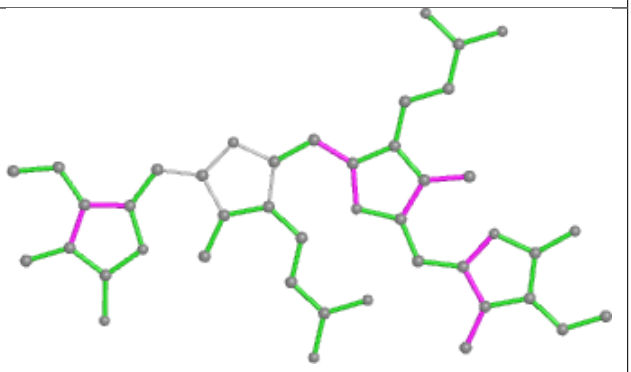
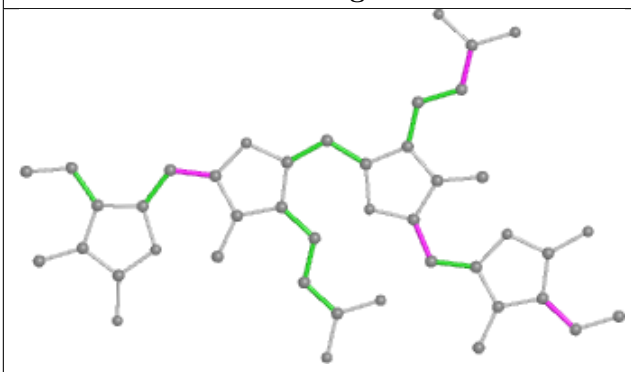


Bond angles



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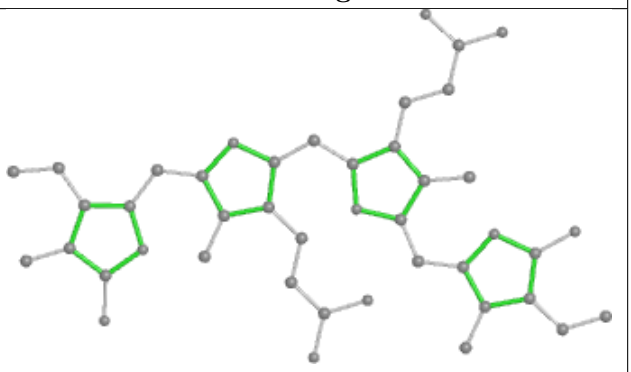
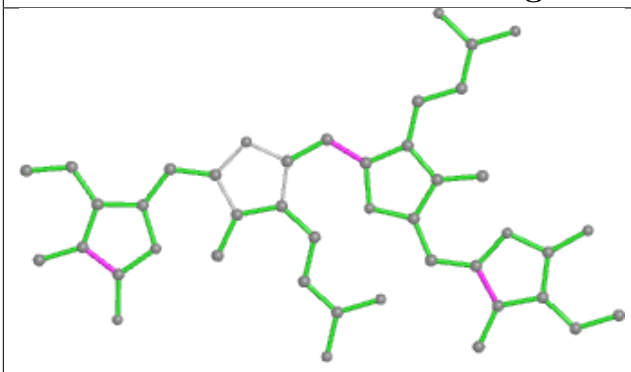


Rings

Ligand CYC S 201



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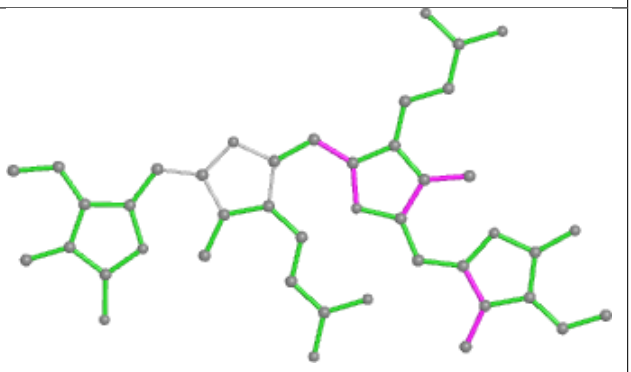

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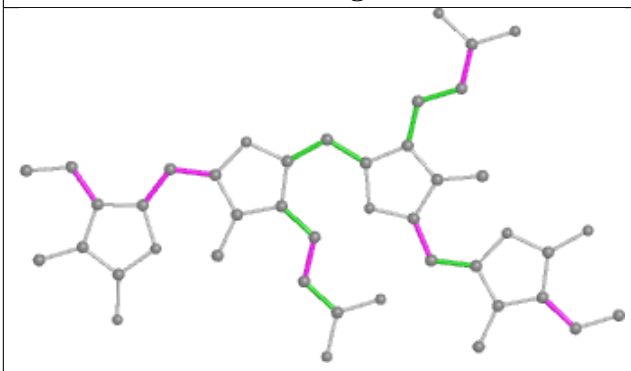
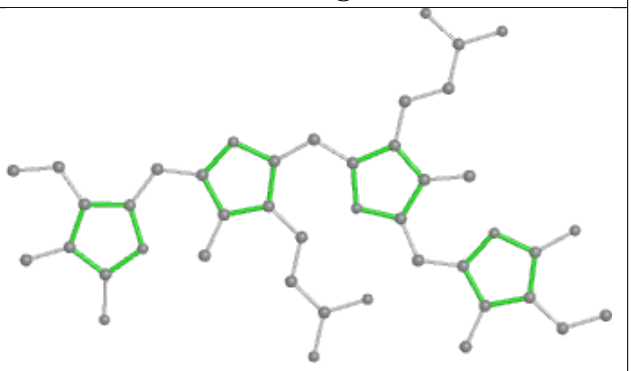
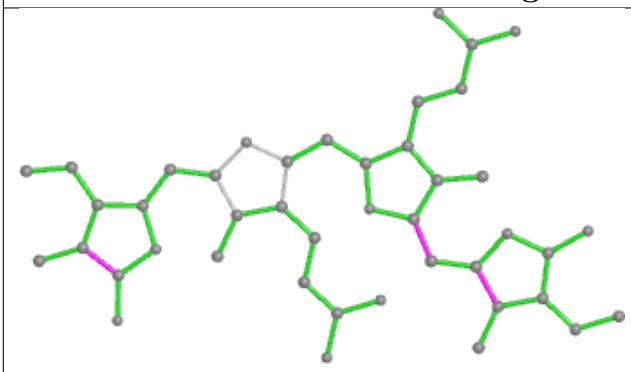


Torsions



Rings

Ligand CYC R 201



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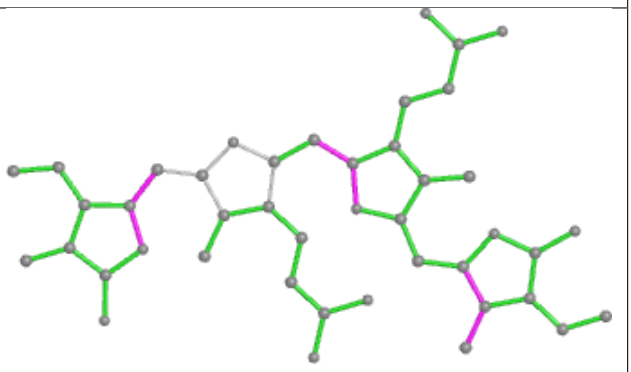

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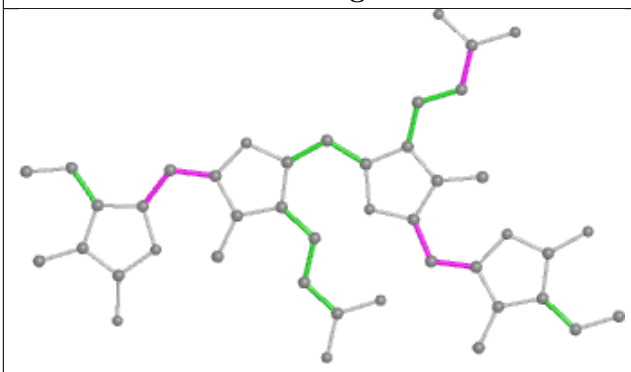

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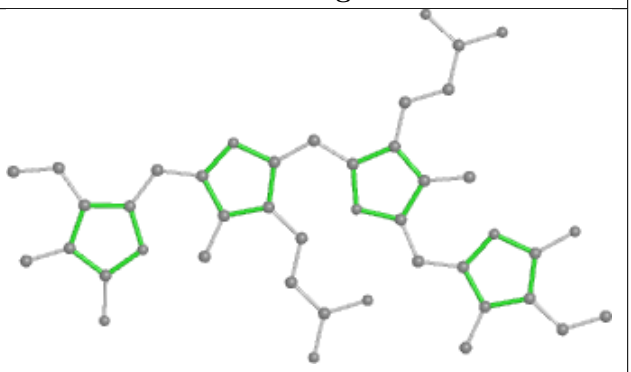
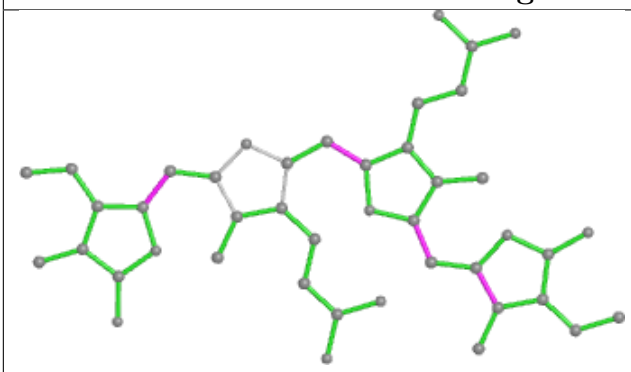


Rings

Ligand CYC W 202



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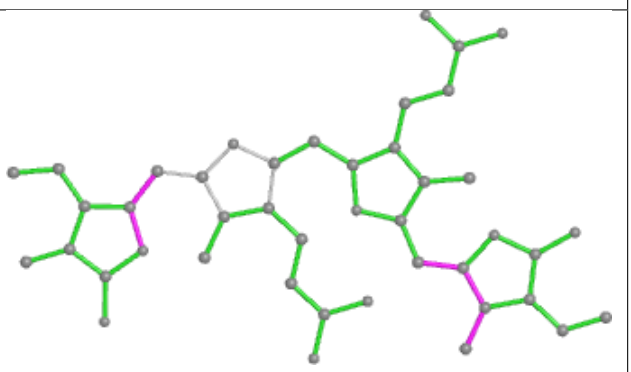

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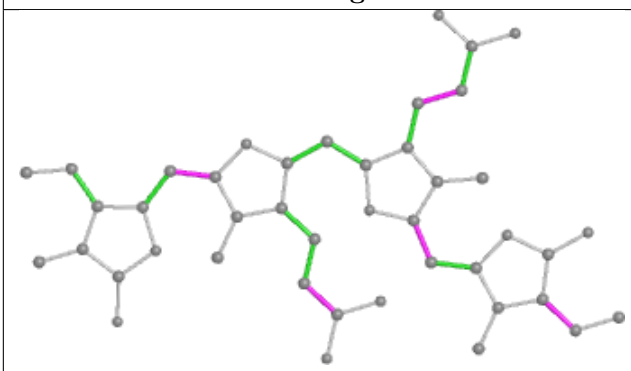

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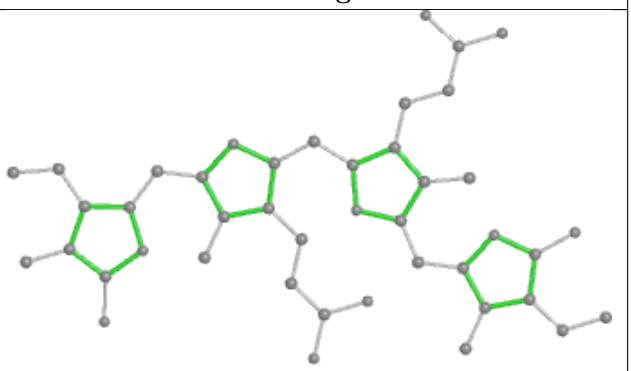
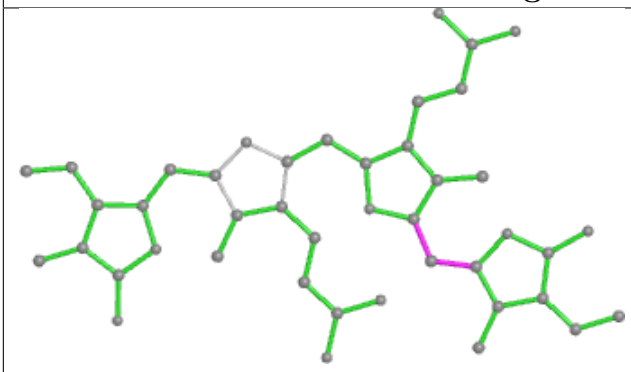
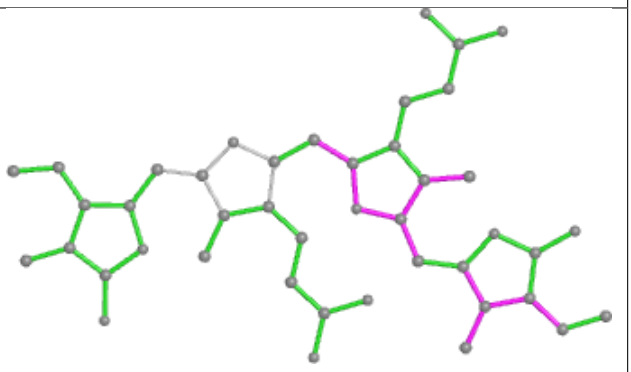


Rings

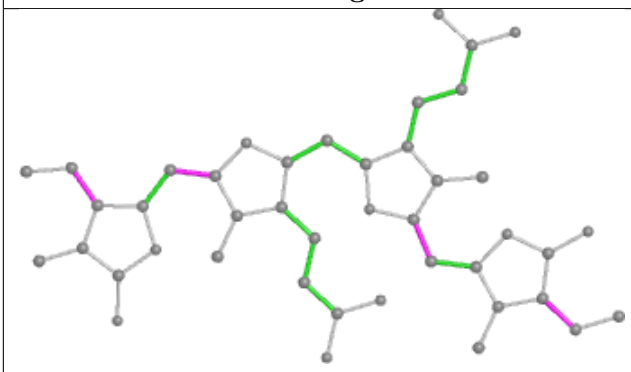
Ligand CYC F 202



Bond lengths



Bond angles



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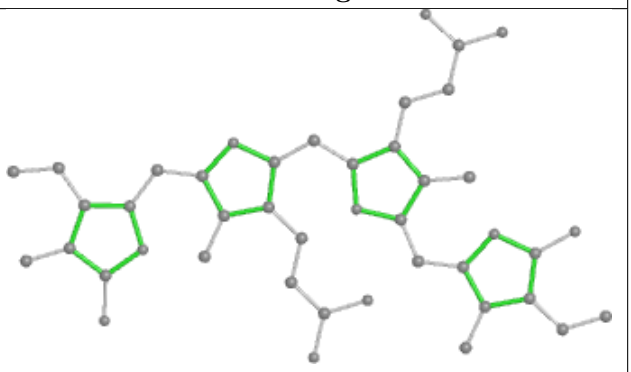
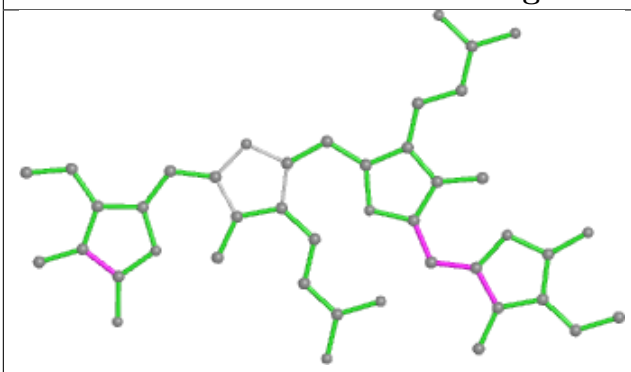


Rings

Ligand CYC P 201



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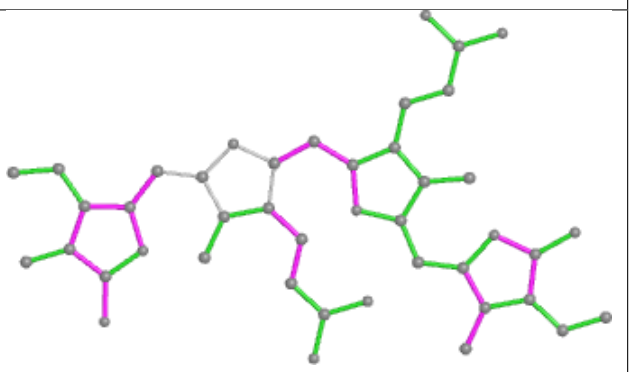
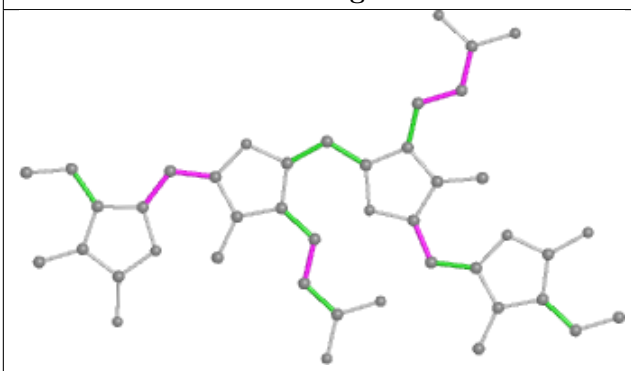
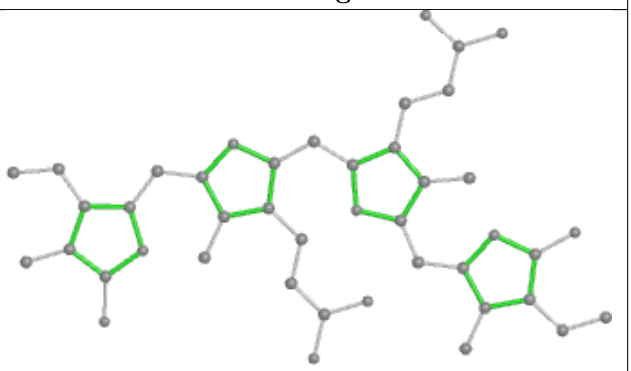


Bond angles

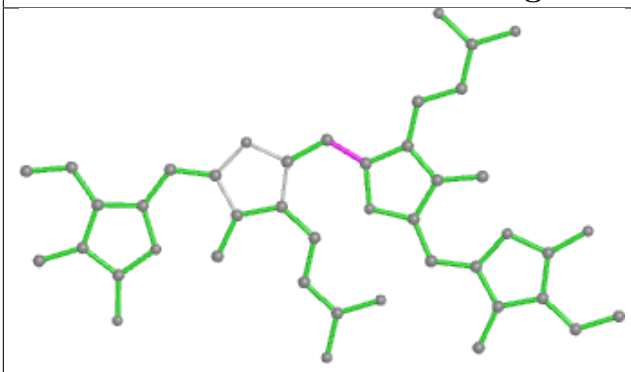


Torsions

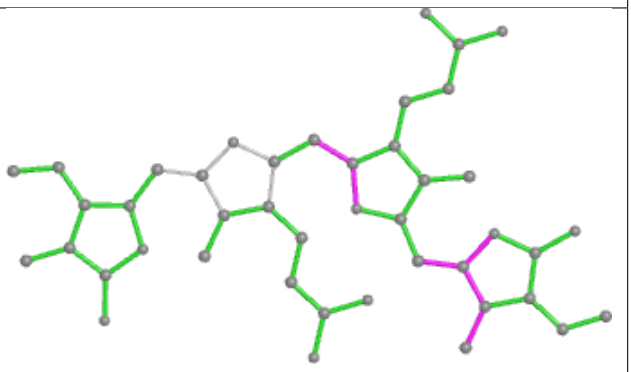


Rings

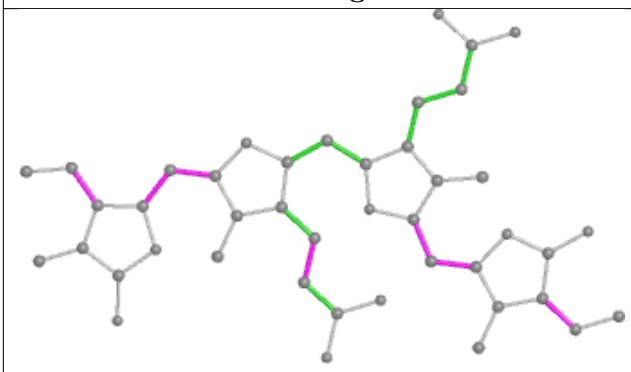
Ligand CYC L 201



Bond lengths



Bond angles



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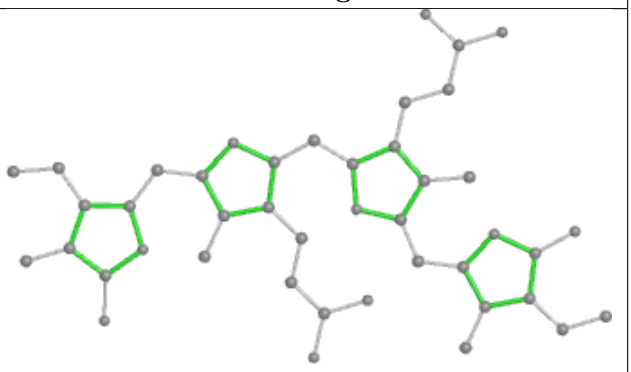
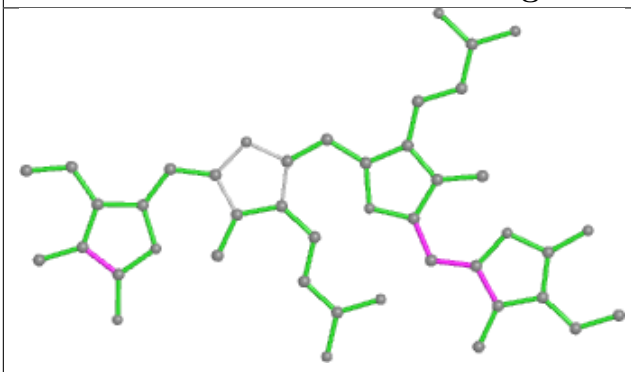


Rings

Ligand CYC Q 201



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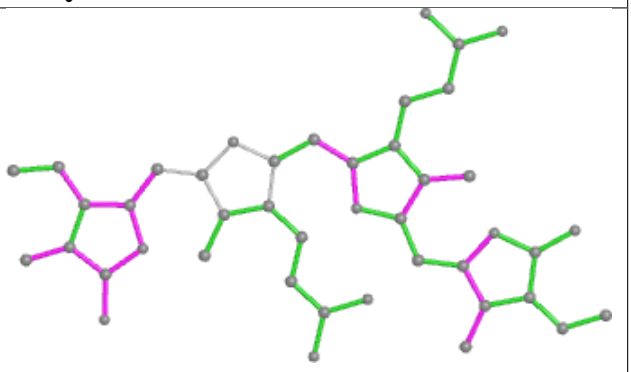

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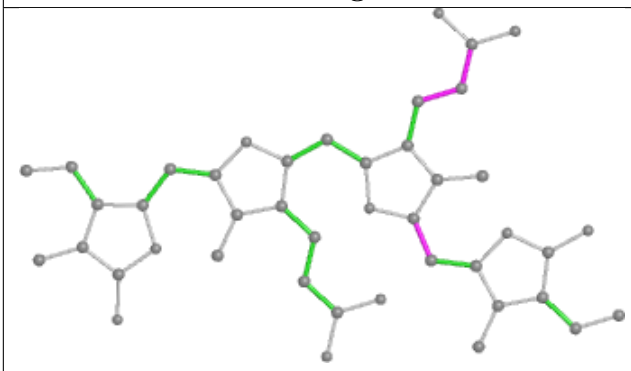
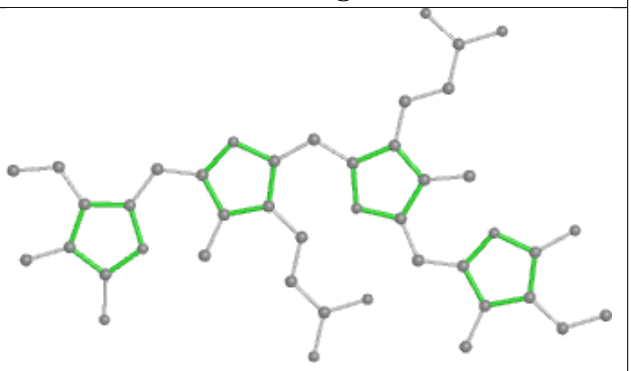
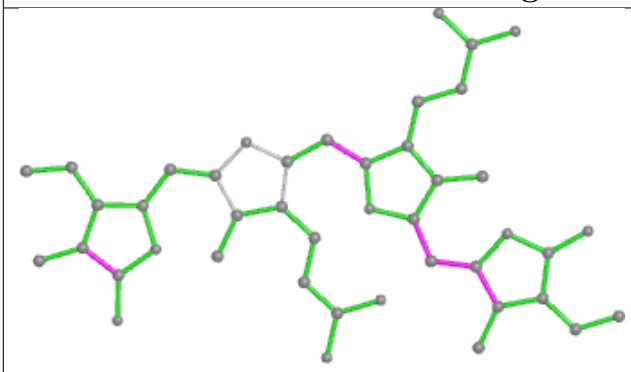


Torsions

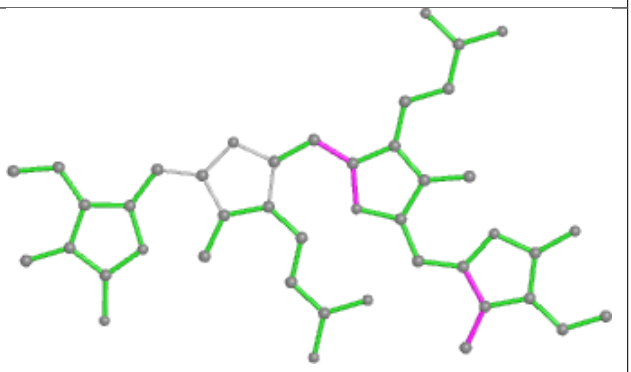


Rings

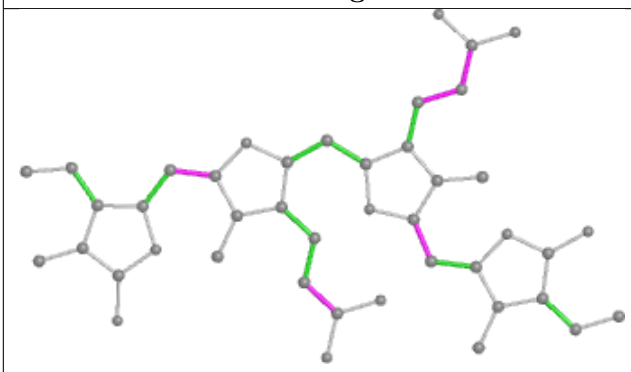
Ligand CYC Y 201



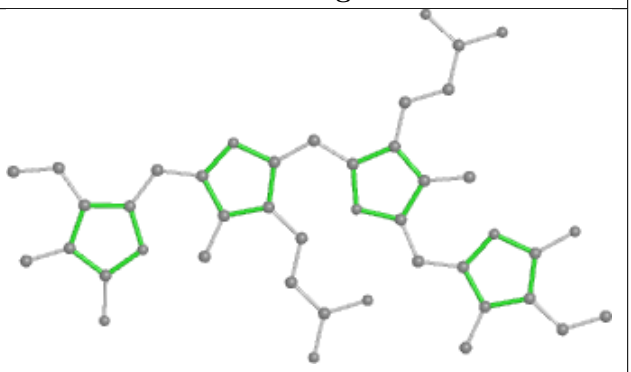
Bond lengths



Bond angles

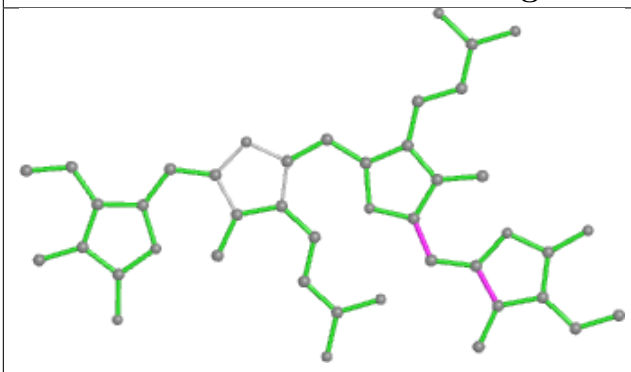


Torsions

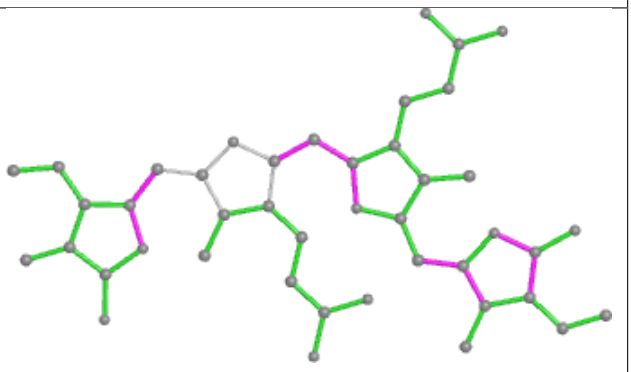


Rings

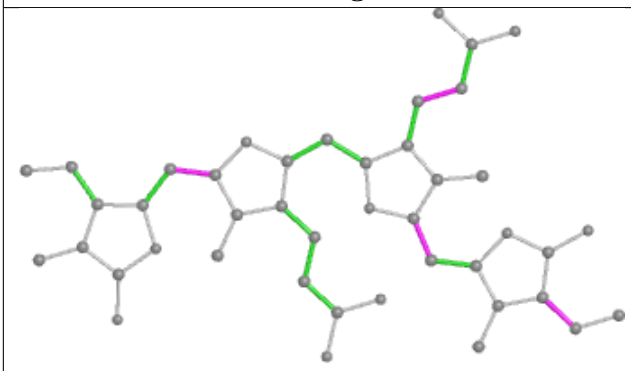
Ligand CYC H 201



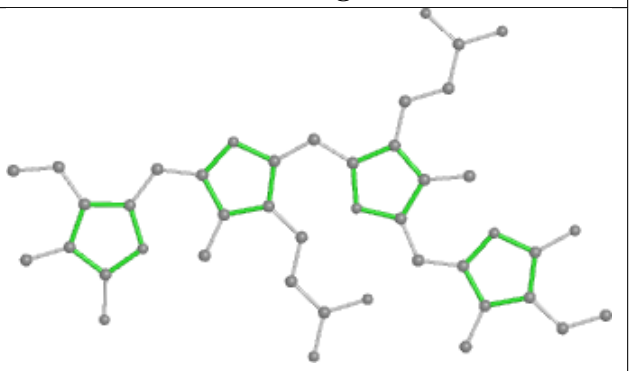
Bond lengths



Bond angles

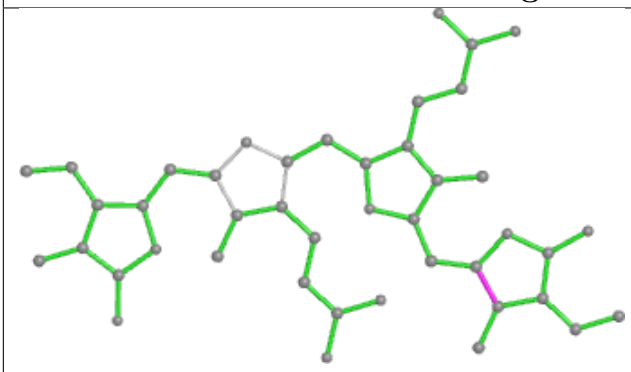


Torsions

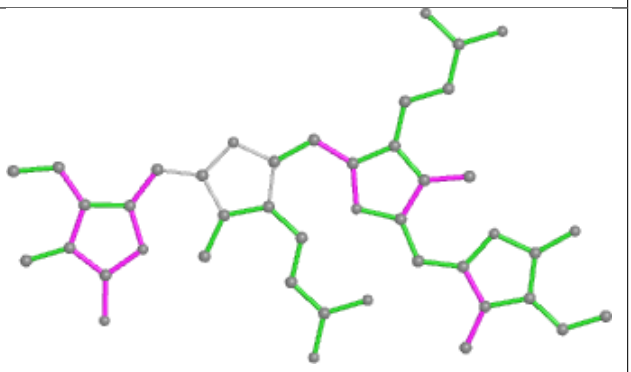


Rings

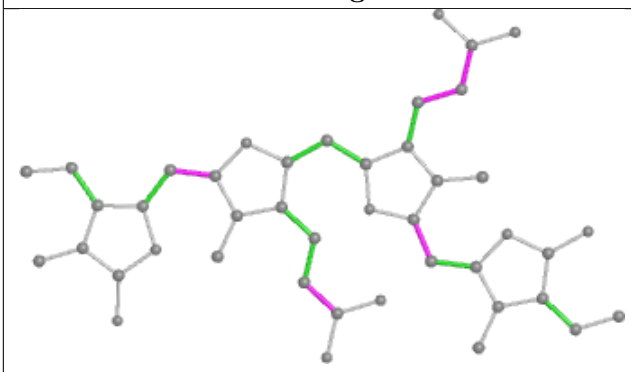
Ligand CYC D 201



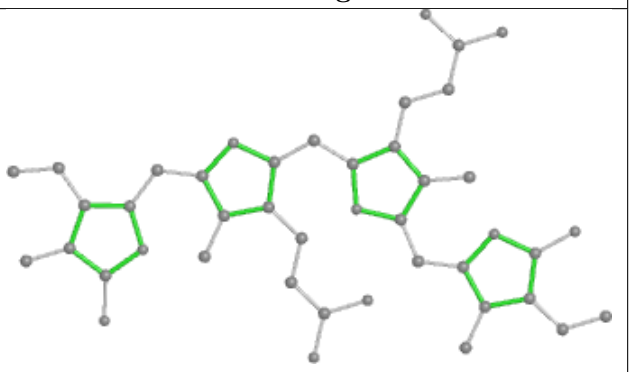
Bond lengths



Bond angles

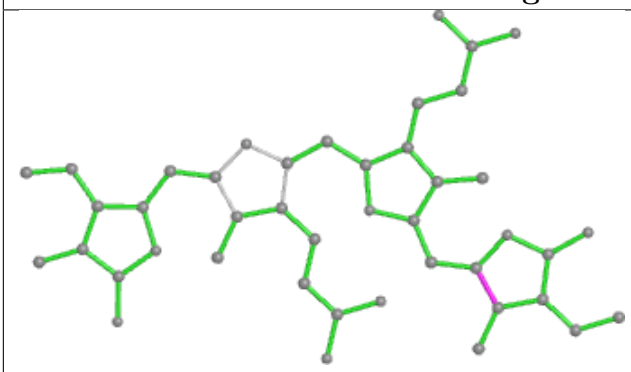


Torsions

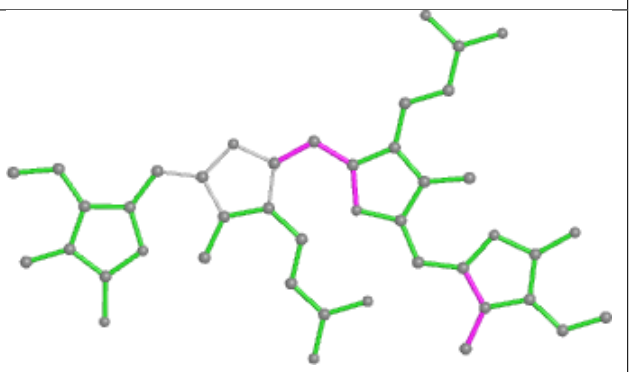


Rings

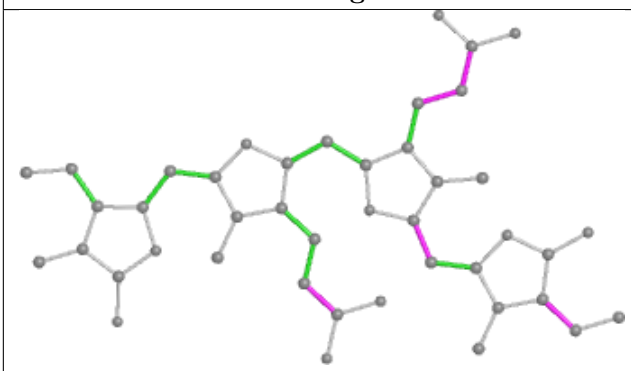
Ligand CYC B 202



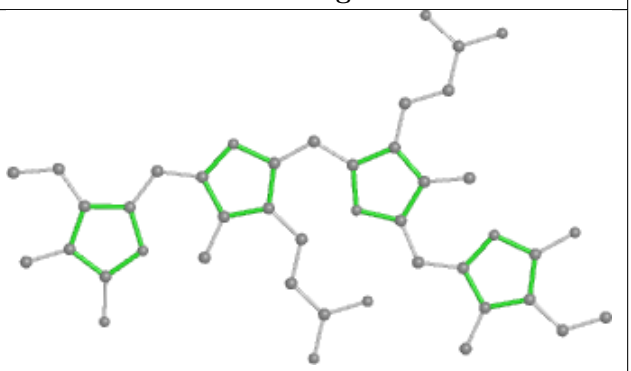
Bond lengths



Bond angles

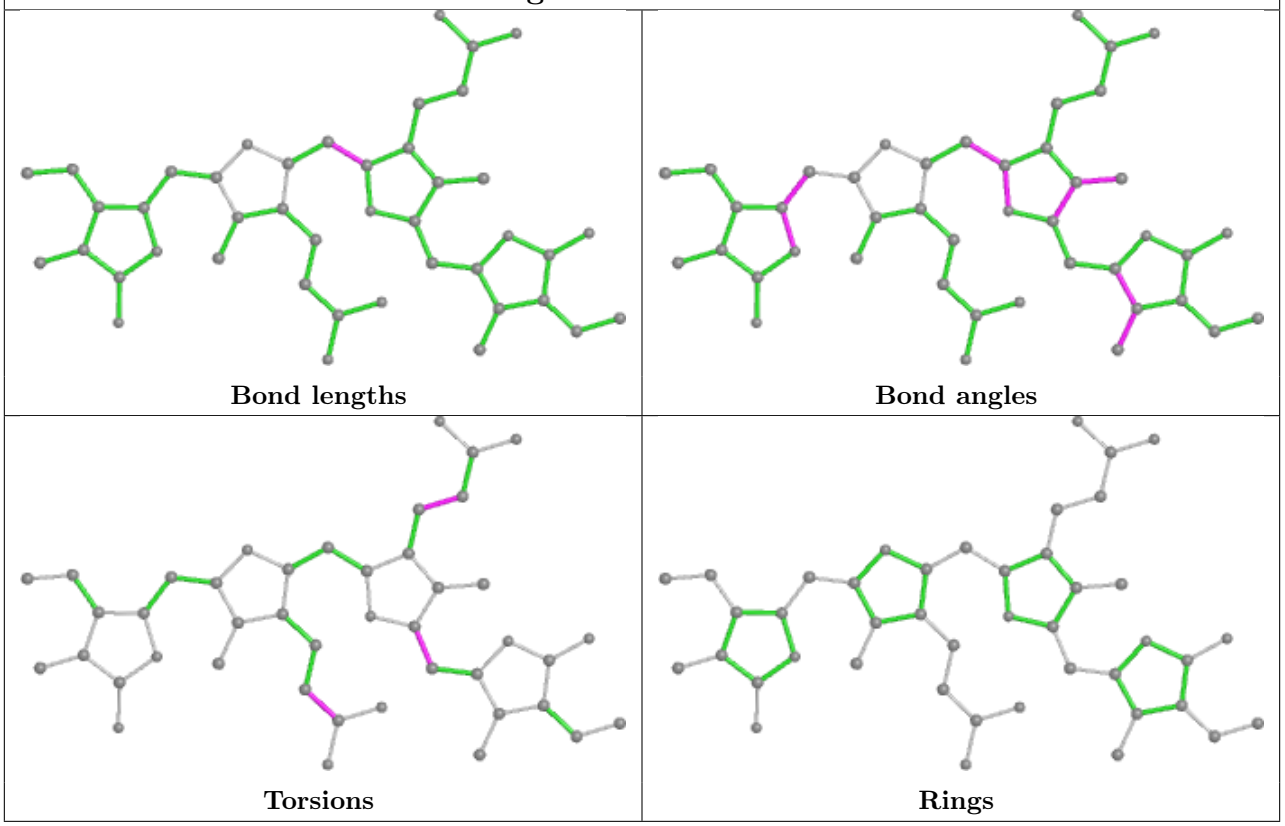


Torsions



Rings

Ligand CYC J 202



5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

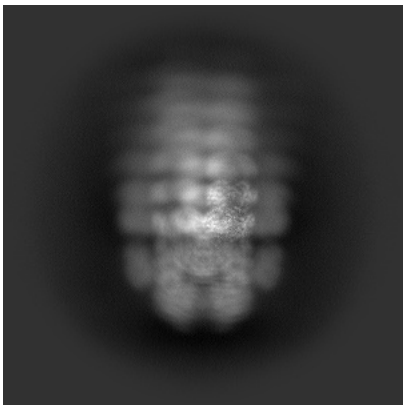
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-64813. These allow visual inspection of the internal detail of the map and identification of artifacts.

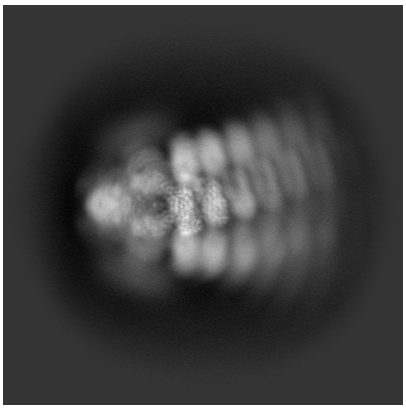
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

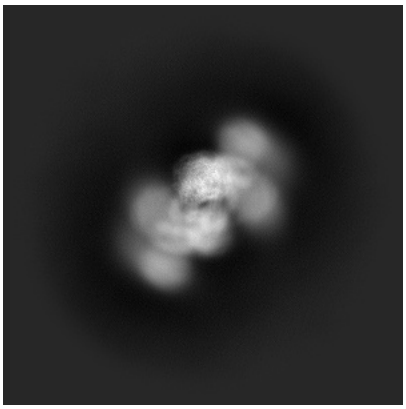
6.1.1 Primary map



X

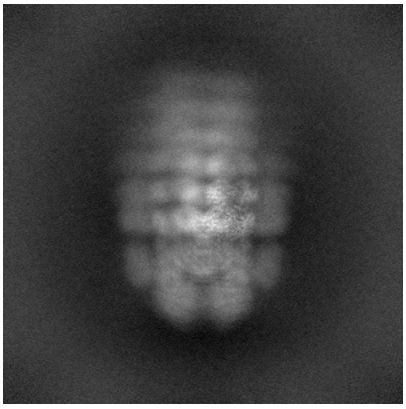


Y

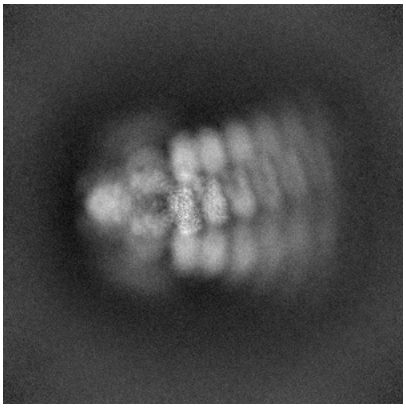


Z

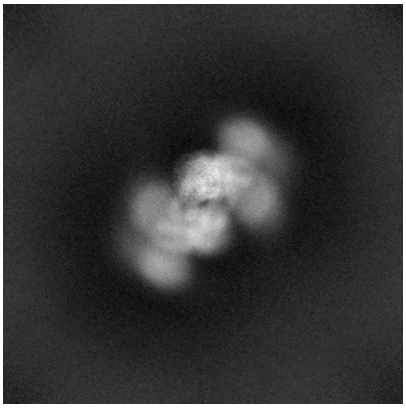
6.1.2 Raw map



X



Y

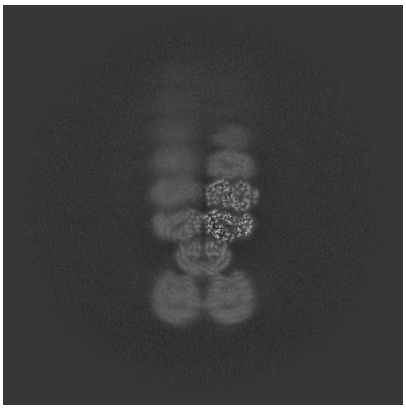


Z

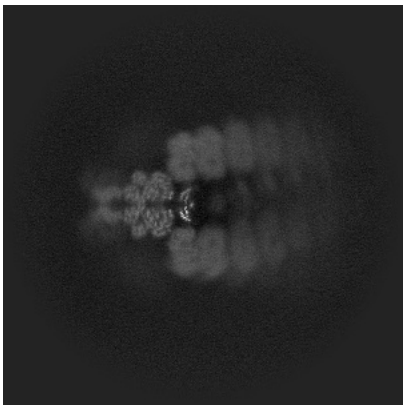
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

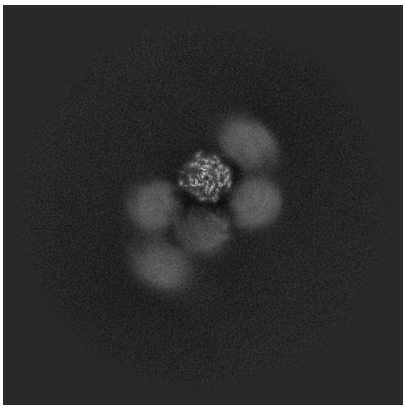
6.2.1 Primary map



X Index: 336

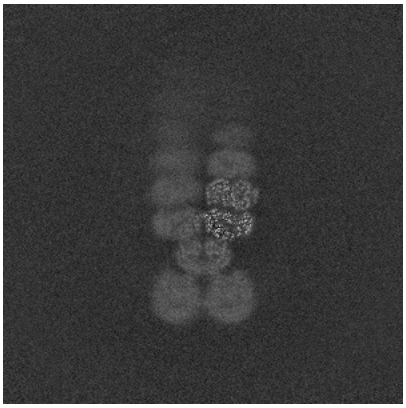


Y Index: 336

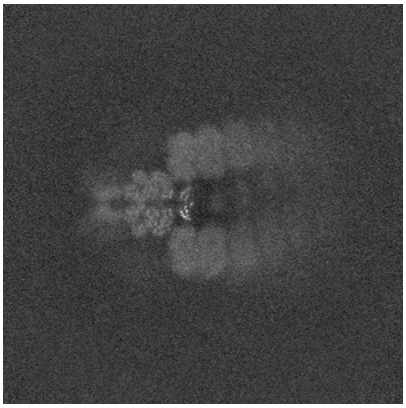


Z Index: 336

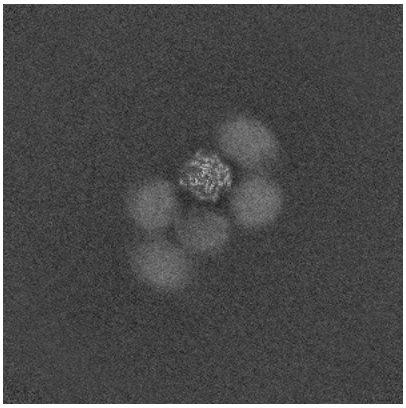
6.2.2 Raw map



X Index: 336



Y Index: 336

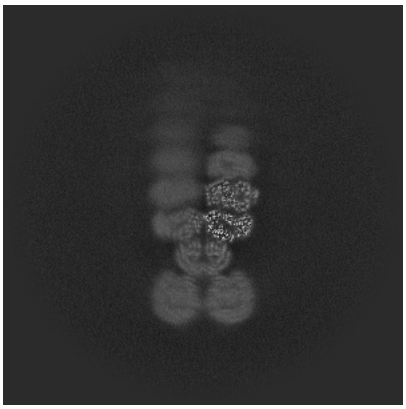


Z Index: 336

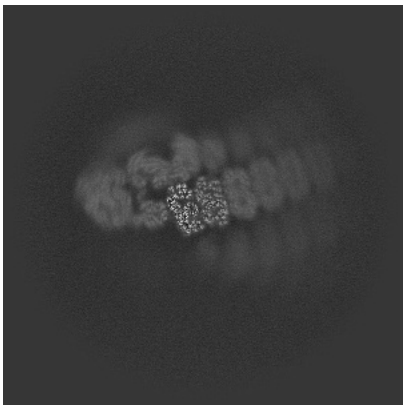
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

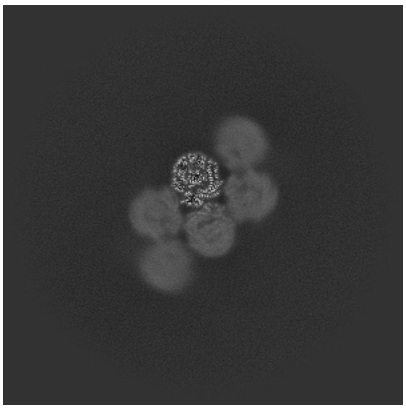
6.3.1 Primary map



X Index: 337

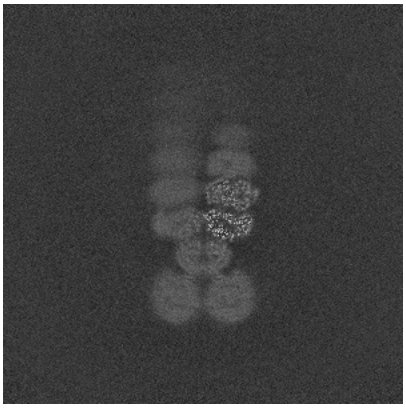


Y Index: 374

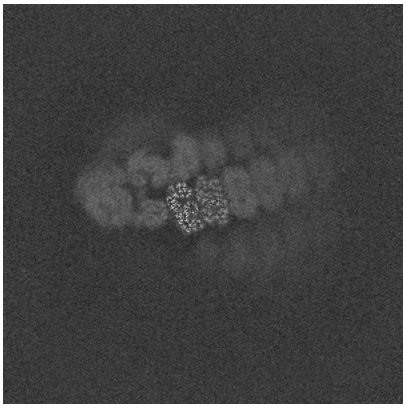


Z Index: 307

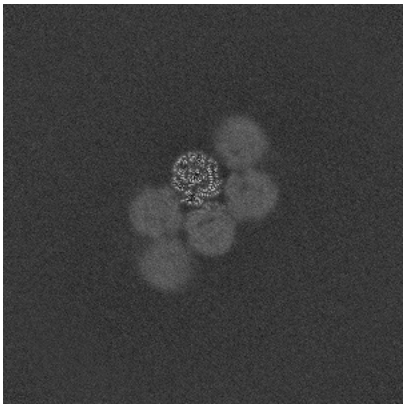
6.3.2 Raw map



X Index: 337



Y Index: 374

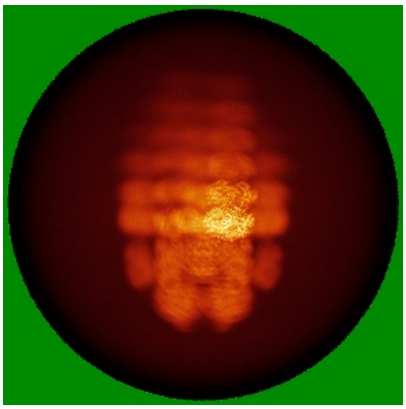


Z Index: 307

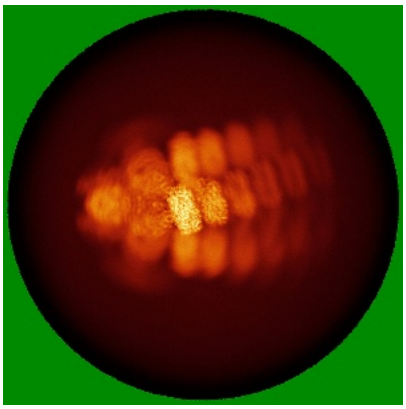
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) (i)

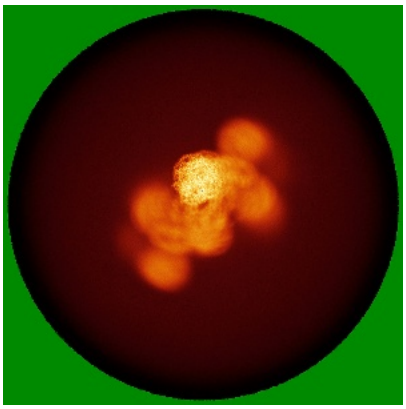
6.4.1 Primary map



X

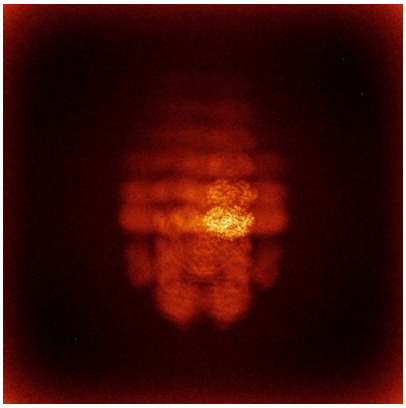


Y

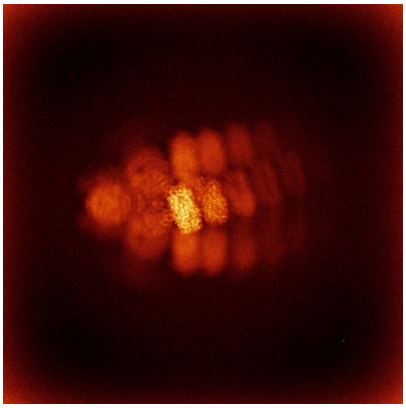


Z

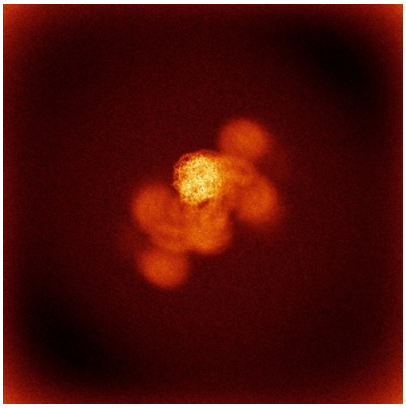
6.4.2 Raw map



X



Y



Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.35. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map

X Y Z

These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

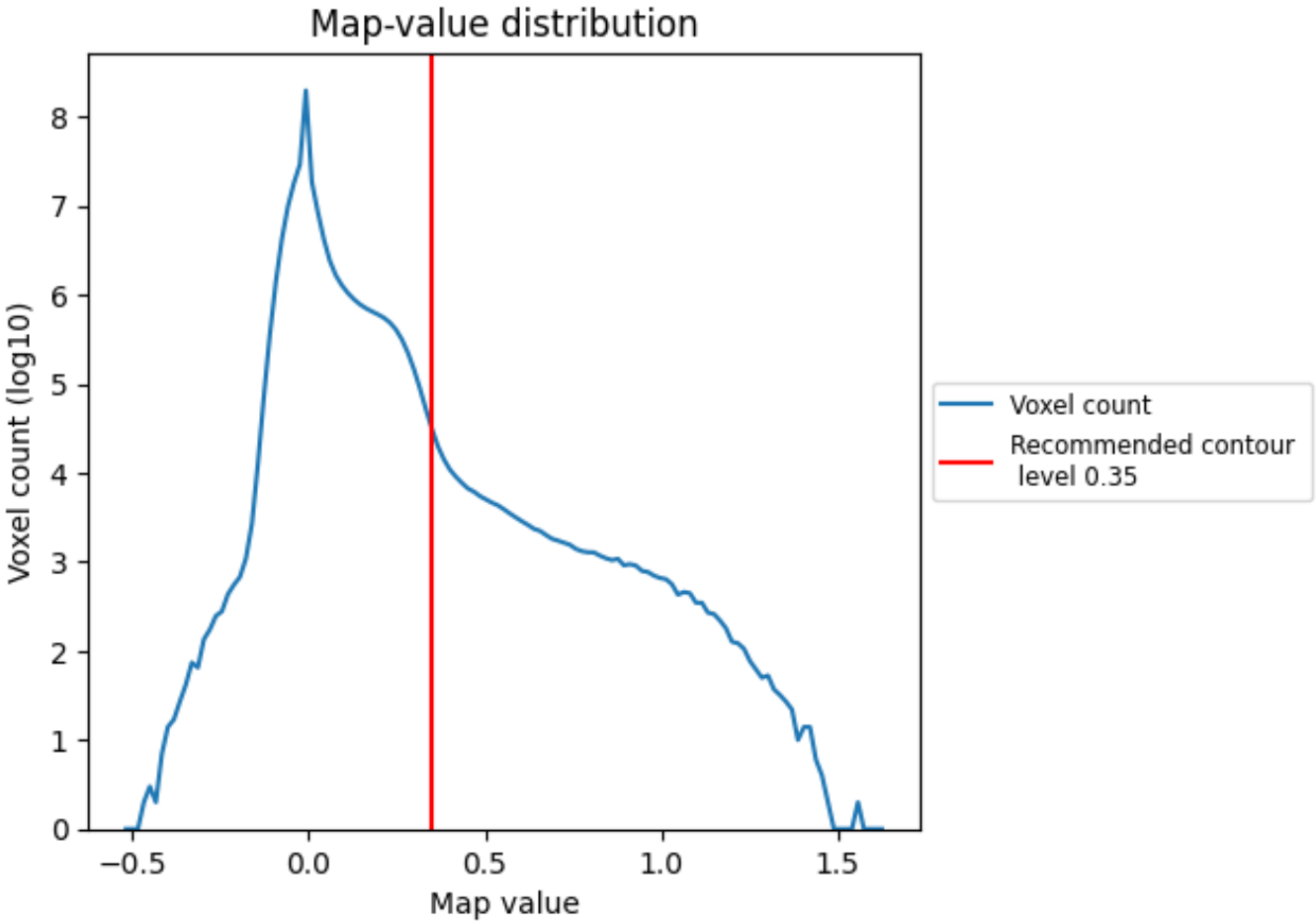
6.6 Mask visualisation (i)

This section was not generated. No masks/segmentation were deposited.

7 Map analysis

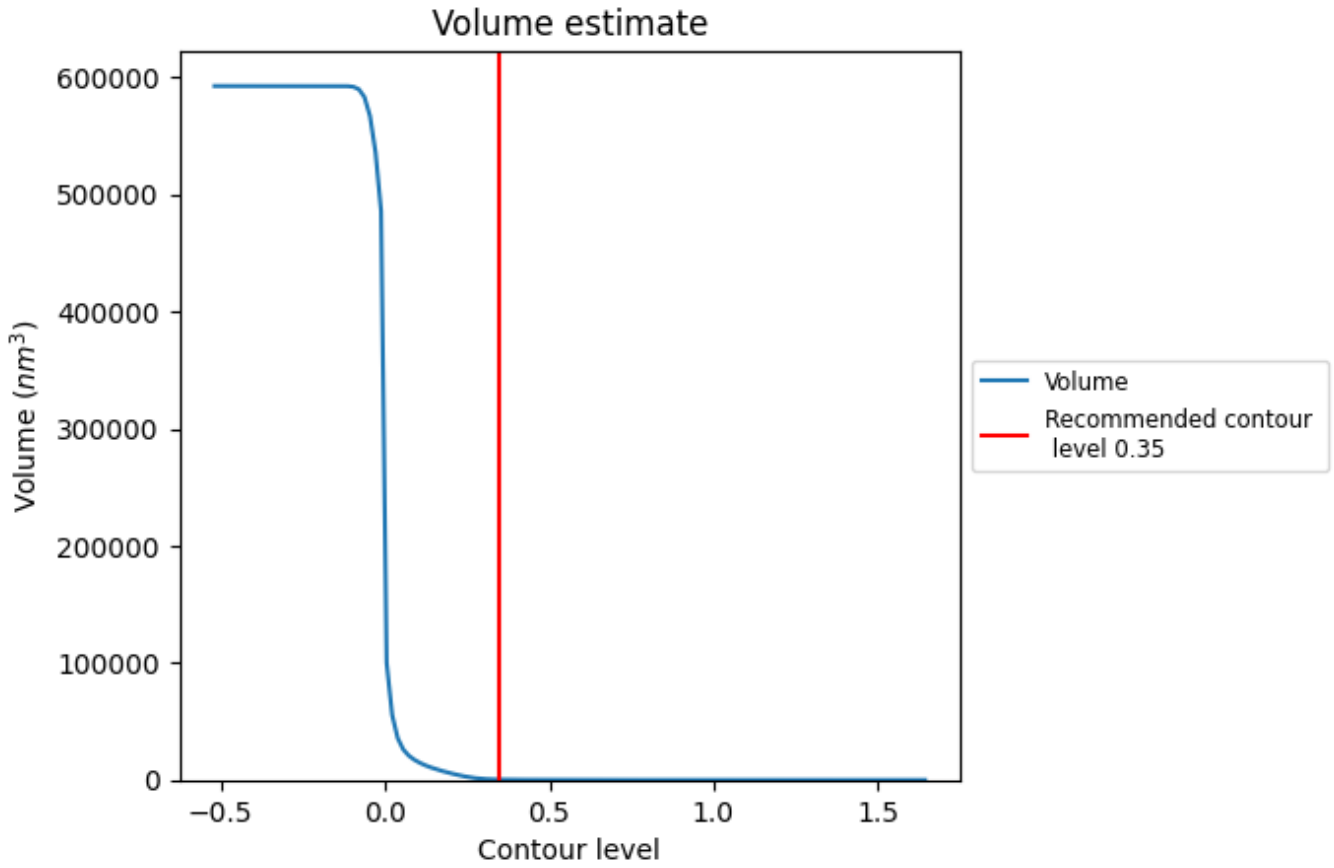
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

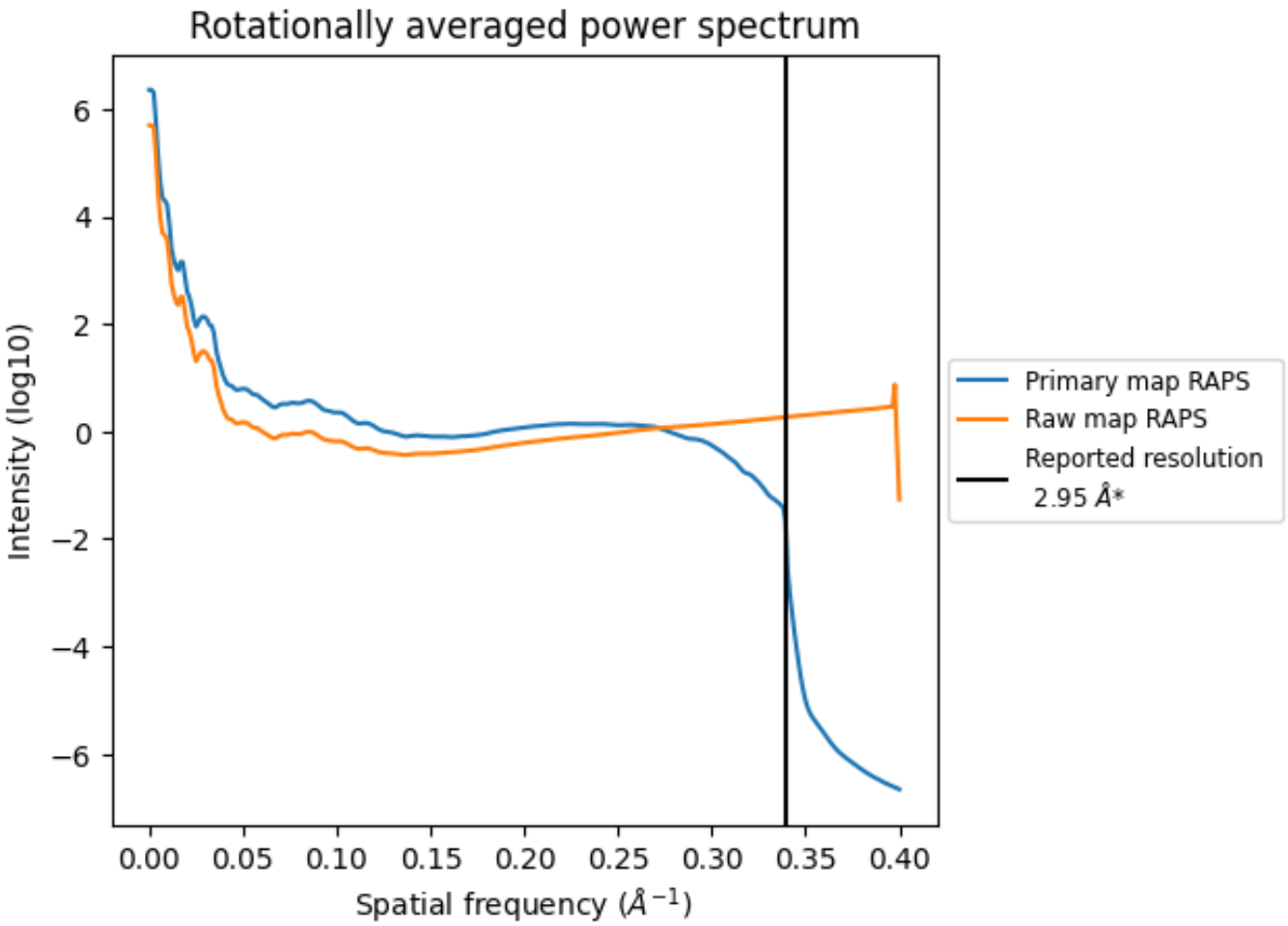
7.2 Volume estimate



The volume at the recommended contour level is 344 nm^3; this corresponds to an approximate mass of 311 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum (i)

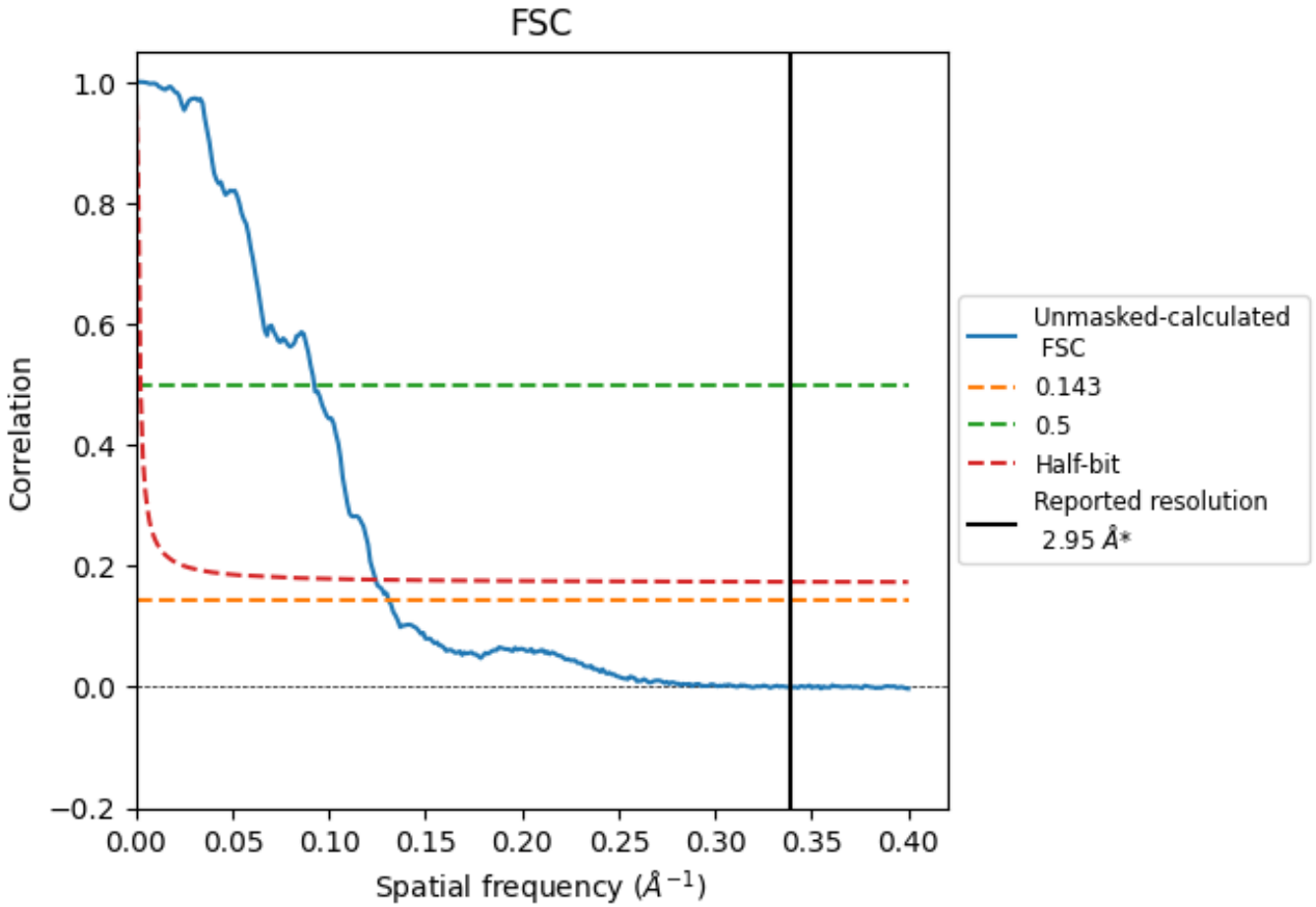


*Reported resolution corresponds to spatial frequency of 0.339 Å^{-1}

8 Fourier-Shell correlation

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.339 Å^{-1}

8.2 Resolution estimates (i)

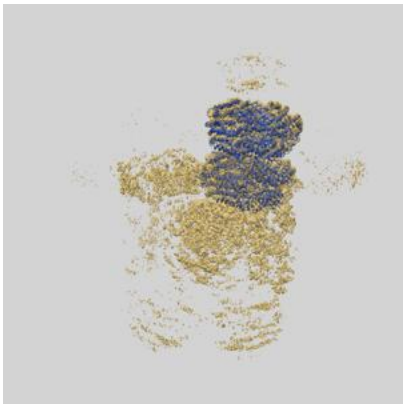
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.95	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	7.64	10.83	8.06

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 7.64 differs from the reported value 2.95 by more than 10 %

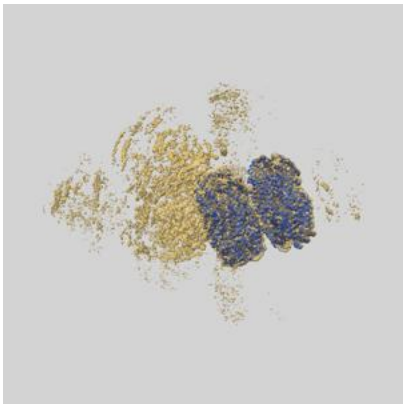
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-64813 and PDB model 9V7H. Per-residue inclusion information can be found in section 3 on page 9.

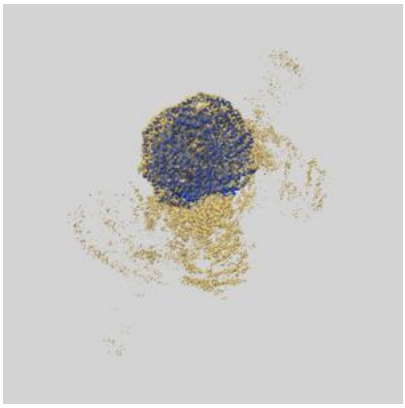
9.1 Map-model overlay



X



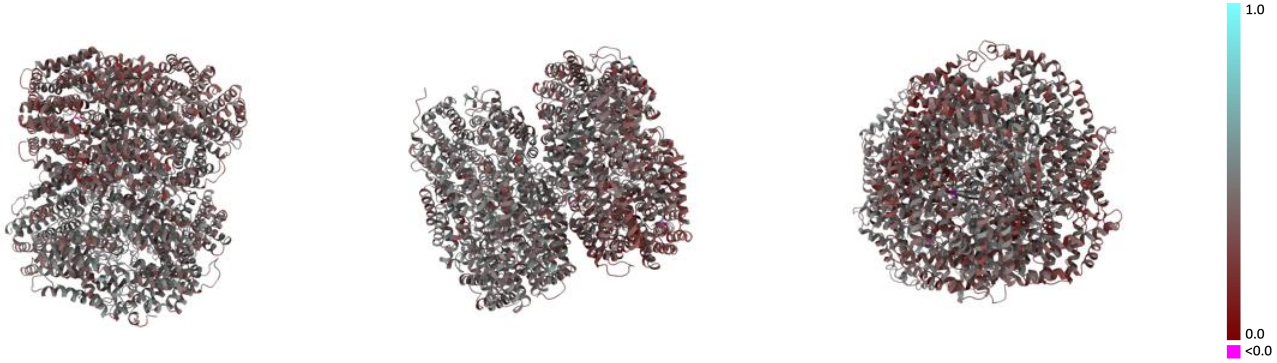
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.35 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

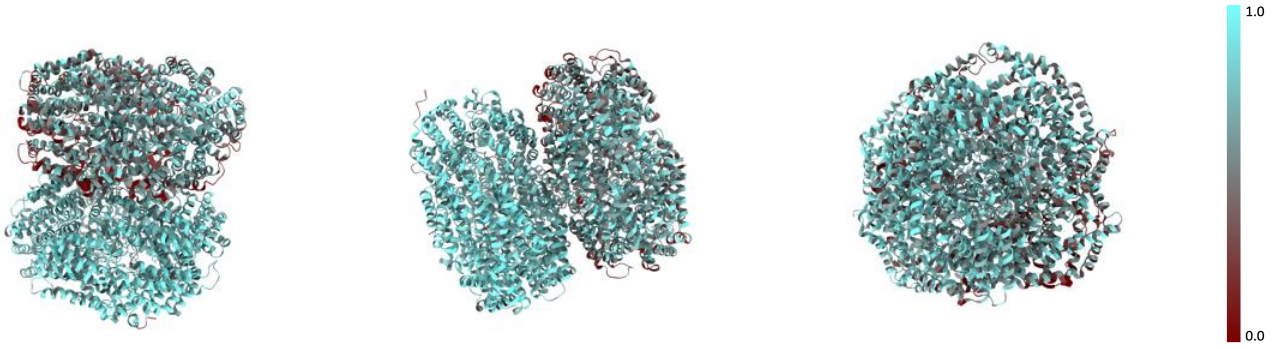
9.2 Q-score mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

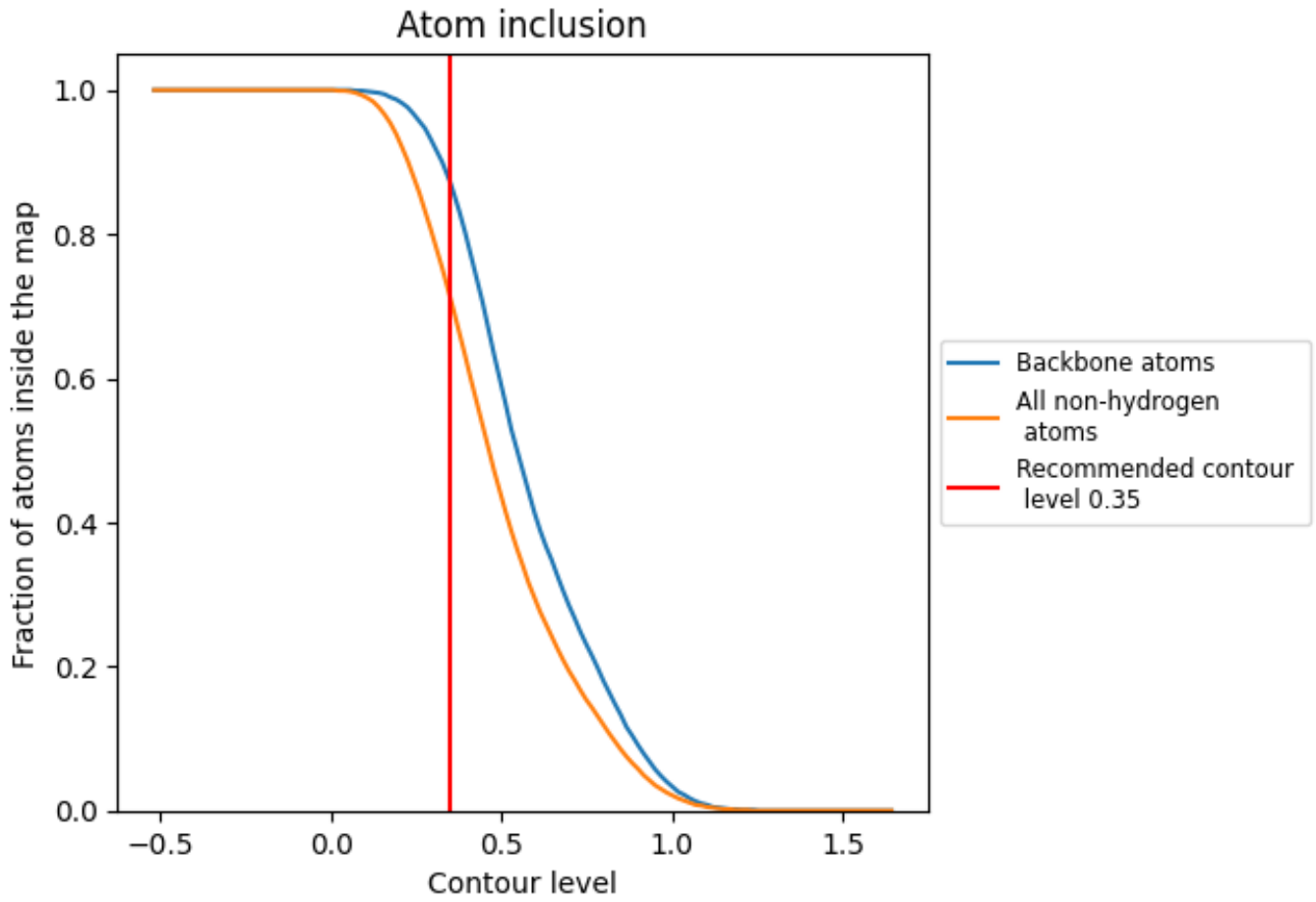
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.35).

9.4 Atom inclusion (i)



At the recommended contour level, 87% of all backbone atoms, 71% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.35) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7110	0.3920
A	0.5380	0.3480
B	0.6210	0.3150
C	0.6100	0.3240
D	0.4670	0.3400
E	0.6510	0.3260
F	0.6340	0.3150
G	0.5380	0.3440
H	0.6050	0.3730
I	0.6750	0.3850
J	0.5660	0.3560
K	0.5270	0.3720
L	0.6070	0.4160
M	0.7210	0.4050
N	0.8170	0.4370
O	0.7980	0.4040
P	0.8240	0.4390
Q	0.7920	0.4380
R	0.8530	0.4210
S	0.8290	0.4340
T	0.8210	0.4420
U	0.7880	0.4200
V	0.8430	0.4210
W	0.8010	0.4170
X	0.8430	0.4450
Y	0.8240	0.4240
Z	0.8110	0.4330
a	0.6760	0.3500